

FINANCIAL TIMES

EUROPE'S BUSINESS NEWSPAPER

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Tuesday May 15 1984

D 8523 B

French state groups
pursue U.S.
joint ventures, Page 7

Arabian Sea	Sch. 18	Indonesia	Rs 2500	Peru	Soles 150
Bahamas	DM 0.650	Italy	Lira 1100	Spain	Pes 160
Belgium	Bfr 36	Japan	Yen 150	Switzerland	Sfr 1.50
Canada	C\$ 1.32	South Korea	Won 100	Taiwan	Nt\$ 100
Ceylon	Rs 150	Thailand	Baht 50	United Kingdom	£ 1.00
Denmark	Dkr 7.25	USSR	Rub 150	USA	\$ 1.00
Egypt	£ 1.00	West Germany	DM 2.30		
France	FFr 6.50	Yugoslavia	Dinar 100		
Germany	DM 2.30				
Greece	Dr 160				
Hong Kong	HKS 12				
India	Rs 15				

NEWS SUMMARY

GENERAL

Soviets to increase German missiles

The Soviet Union announced that it would be putting more medium-range missiles into East Germany to strengthen moves started last autumn to counter the arrival of U.S. missiles in Western Europe.

News agency Tass said future deployments would be "strictly within the limits necessary for maintaining the balance of forces and neutralising the concrete threat against us and our allies."

In Washington, U.S. President Ronald Reagan said that to further now in the U.S. MX intercontinental missile programme "would reward Moscow for refusing to negotiate, and cast doubt on the solidarity of the Western allies."

He pointed to the comprehensive Soviet programme for large amounts of new weapons comparable to the MX. Earlier story, Page 6.

Big poll turnout

Early indications showed that the opposition was capturing more votes than expected in the Philippines general election, but that president Ferdinand Marcos would still succeed. Turnout in Manila was said to be between 80 and 90 per cent. Page 6.

'No Games reprieve'

Soviet Olympic president Marat Gramov said in Moscow that the decision not to compete at Los Angeles was irrevocable. International Olympic president Juan Samaranch left for Manila, having received no reply from Moscow to his request for talks. In Los Angeles, Games organiser Peter Ueberroth rejected Soviet complaints as invalid.

Belrut pledge

New Lebanon Premier Rashid Karim pledged himself to try to end the fighting in Beirut, where Muslim gunmen' random shelling killed a Christian boy and wounded 32 people.

Punjab police shot

Two police were shot dead and 40 people arrested as violence flared again in the Punjab, where six towns were put under curfew. Page 6.

Refinery battle

Four men suspected of attacking with rockets the Mobil refinery in Durban, died in a four-hour gun battle with police. Three others died in a point-blank shooting in the town of Pietermaritzburg. One seaman was killed. Page 3.

Launch blown up

A new Basque group, Ataska, claimed responsibility for sinking a Spanish navy launch with a bomb at Fuenterabia. One seaman was killed. Page 3.

Athens explosion

About 80 people were injured by an explosion in an office and shop building in central Athens. Police suspected a bomb, but decided it was caused by bottled gas.

Poles escape

Seven Poles seeking asylum flew to Sweden in a stolen sports aircraft. Polish briefing for Page 3.

Moon appeal refused

The U.S. Supreme Court refused to review the tax fraud conviction of the Rev Sun Myung Moon, founder of the World Unification Church. He had been sentenced to 18 months' jail and fined \$25,000.

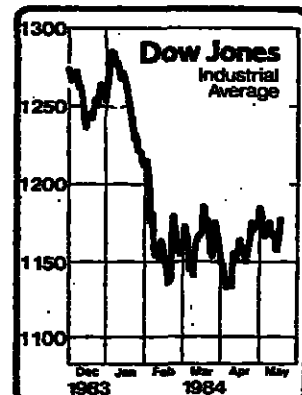
BUSINESS

Tokyo index tumbles 270.53

TOKYO: Nikkei Dow index dropped 270.53, second largest one-day loss on record, to 10,583.34, mostly on small lot selling. Stock Exchange index fell 20.37 to 828. Report, Page 33. Leading prices, other exchanges, Page 36.

LONDON: FT Industrial Ordinary index rose 3 points to 674. Government securities showed small falls. Report, Page 37. FT Share Information Service, Pages 38, 39.

WALL STREET: Dow Jones Industrial Average closed down 6.07 at 1,151.07. Report, Page 33. Full Share Prices, Page 34-36.



DOLLAR was volatile on foreign exchanges, falling to DM 2.757 (from Friday's DM 2.715), Ffr 8.485 (Ffr 8.515), and Swfr 2.2785 (Swfr 2.2875), and improving to Y231.25 (Y230.25). Its Bank of England trade weighting, struck before the close, was unchanged at 131.7. In New York it was DM 2.7487, Swfr 2.2777, Ffr 8.45, Y231.25. Page 43.

STERLING rose 30 points to close at \$1.385, and to Y231 (Y230), but it eased to DM 3.8275 (DM 3.84), Ffr 11.7325 (Ffr 11.73) and Swfr 3.165 (Swfr 3.17). Its trade weighting was up from 80 to 80.1. In New York it was \$1.3885. Page 43.

GOLD rose \$0.25 in London to \$373. In Frankfurt it was \$0.25 down at \$372.5, and in Zurich it rose \$0.5 to \$372.75. Page 42.

DENMARK'S first-quarter balance of payments current accounts deficit was 131 per cent up at Dkr 5.8bn (\$572m). Page 3.

FIAT, holding company of Italy's biggest private group, improved net profits by 92.8 per cent last year at L244bn (\$125m) and plans a L675bn rights issue - a record for the country. Page 21.

GENERAL DYNAMICS of the U.S. and Turkish state aircraft group Tassus have signed a \$150m offset agreement to make aircraft spare parts in Turkey for export. Page 7.

SALENVEST, Sweden's biggest shipping group, is to raise at least \$180m (\$22.5m) by hiring-off part of its dry cargo operation and selling a stake to the public. Page 21.

BERLINER BANK, owned by West Berlin, is to have a major flotation on the West German market as a first step towards privatisation. Page 29.

BTR, the holding company that last year bought Thomas Tilling in Britain's second largest takeover, says profits are running 50 per cent higher than last year, and is planning a stock acquisition, preferably in the U.S. Page 26.

The editorial content of today's international edition has been restricted because of continuing industrial action by IG Druck and Papier at Frankfurter Societäts-Druckerei, where the edition is printed. This prevents the publication of late-breaking news, the final Wall Street report and closing U.S. over-the-counter and Canadian share prices.

RECORD FACILITY TO AVERT CRISIS

U.S. banks agree \$4.5bn standby for Conti Illinois

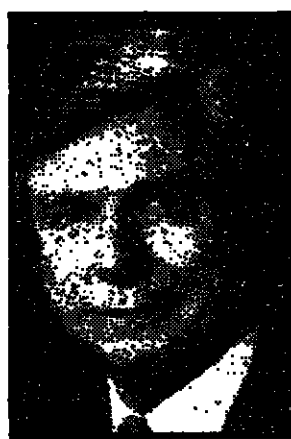
BY WILLIAM HALL IN NEW YORK

THE 16 biggest banks in the U.S. have acted swiftly to avert the major crisis of confidence which has arisen over the financial position of Continental Illinois, the eighth biggest U.S. bank, and put together a \$4.5bn standby facility for the Chicago bank.

The standby facility, the largest of its kind ever to be launched for a major international bank, follows a week of rumours which have made it increasingly difficult for Continental Illinois to fund itself in both the domestic and international money markets.

Mr David Taylor, chairman and chief executive of Continental Illinois, announced the "major supportive action" for his institution shortly after 1.00 pm eastern daylight time yesterday. The syndicate of banks, which is understood to have been informally arranged by Morgan Guaranty, agreed to put up the \$4.5bn to "ensure that Continental Illinois funding requirements continue to be met in a prompt and orderly manner."

Mr Taylor, who only took over as chairman three weeks ago follow-



Mr David G. Taylor

ing the early retirement of his predecessor, Mr Roger Anderson, said that he hoped "this strong action will facilitate the restoration of confidence in Continental Illinois."

The standby facility did not stop Standard & Poor's, the credit rating agency, from lowering its ratings on debt obligations of Continental Illinois and its subsidiaries.

Ratings on senior debt are lowered to Triple B from A-minus on preferred stock, to Double B from Triple B-plus and on Commercial Paper to A to A1.

The announcement of the massive standby facility for Continental Illinois was arranged over the weekend after several days of rumours which had made it increasingly difficult for the bank to operate normally in the money markets.

On Thursday the U.S. Comptroller of the Currency took the unprecedented action of stating publicly that he was not aware of "any significant changes in the bank's operations as reflected in its published financial statements that would serve as a basis for these rumours."

Continental Illinois also stated on several occasions last week that the rumours circulating about the possible bankruptcy, merger or acquisition of Continental Illinois had no basis in fact and should never have been fuelled by irresponsible wire service reports.

Continued on Page 20

IG Metall strikes may shut German car plants

BY RUPERT CORNWELL IN BONN

WEST GERMAN metalworkers' first serious strikes began in the early hours of the morning, as the first shift workers reported to the carefully chosen plants, which included two of the Robert Bosch components group.

The immediate repercussions not only vindicate the union's proclaimed strategy of "pinpricks which will hurt," but seem to confirm fears that well-judged selective action by IG Metall could rapidly escalate into a level of disruption which has not been seen for many years in West Germany.

BMW, which last year lifted output 11 per cent to 421,000 units and is working to full capacity, said that initially only final assembly workers would be affected at the four plants in Munich, Dingolfing, Landshut and Berlin.

But, it warned, the longer the strike continued, the wider the effects would be felt. The lost production would hit its share of the market, and could jeopardise existing plans to create new jobs this year.

Spokesmen for other big West German motor groups, including Daimler-Benz and Opel, indicated last night that they would also be seriously hit by component shortages in a few days.

Both the union and the engineering employers yesterday professed themselves ready for fresh talks again, but the two sides still seem as far apart as ever on the basic issue of a 5-hour cut in the present 40-hour week.

Frankfurt share prices drop, Page 33.

Attacks on Gulf tankers bring increase in war risk premiums

BY RICHARD JOHNS IN LONDON

WAR RISK premiums on shipping to the Gulf were increased yesterday as Iraq continued to intensify its missile attacks on vessels lifting Iranian oil and as Iran apparently retaliated against Arab tanker traffic. Oil prices on the spot market also rose.

A second Kuwaiti-owned tanker, the Bahra, was hit yesterday by an unidentified aircraft outside the exclusion zone declared by Iraq only 30 hours after the Umm Casbah had suffered a similar fate.

Mr Abdel Fatah al Badr, chairman of the Kuwait Oil Tanker Company, said that the Bahra had been struck early yesterday afternoon by two rockets while it was en route for Kuwait to load a shipment of crude oil. One rocket had hit the starboard side, punching a 5.25 sqm hole in the ship; the other damaged the command room and officers' accommodation quarters.

A fire was brought quickly under control and only two members of the crew suffered "minor injuries."

There were fears also that the Raw al Zouar, a 28,000 dwt KOTC product tanker carrying a cargo of naphtha had been attacked on Sunday. But it was not confirmed as a casualty.

But at the Kuwaiti investigation into the 55,450-ton Umm Casbah, damaged in similar circumstances early on Sunday, speculation grew that Iran was using its depleted air force for selective strikes on Arab vessels.

Iraq denied responsibility for the attack on the Umm Casbah, but yesterday issued a communique saying its aircraft had hit "two large naval targets" south of the main Iranian oil terminal of Kharg Island.

In the area, the 69,489 dwt Tabriz, a ship belonging to National Iranian Tanker Company, and the 61,828 dwt Esperanza II, registered in Panama but believed to be Greek-owned, were reported to be on fire. The fate of the vessels, which are

near where the Saudi-owned Al Ahoud was hit last week, remained unclear.

Following four more attacks on shipping, the London hull war risk committee is understood to have decided upon a rise in the rate for ships bound for Iran's Kharg Island and Bushire terminals to 3 per cent from 2 per cent for seven-day voyages on the basis of 48 hour's notice.

For 14-day sailings within the Gulf to other destinations it has been doubled to 0.75 per cent. For cargo insurance in the war zone, which is negotiated for individual voyages, rates were reported yesterday to have edged up to 0.15 per cent, about twice as much as a week ago.

The escalation of the Gulf war was responsible for a continued strengthening of oil prices on the spot market. Traders reported a buyer-seller rate for Brent Blend of \$29.45-\$29.75 per barrel, up 15 cents on the level of last Friday.

Reagan avoids criticism of Fed

By Paul Taylor in New York

PRESIDENT Ronald Reagan yesterday backed away from recent criticism of the Federal Reserve Board by members of his Administration, saying that inflationary fears were responsible for high interest rates and suggesting that recent weakness in the growth of the money supply could be "inadvertent."

Questioned about whether the Fed was responsible for high interest rates, he said: "You've just asked a touchy one." He added: "I think that one of the reasons for the interest rates is the lack of confidence out there, that we do not have inflation under control."

Scrupulously avoiding even a hint of criticism of the Central Bank, Mr Reagan said: "Now I have to say also on behalf of the Fed, we must recognize that the tools are not that accurate that they have to work with."

Asked if he was backing off from Treasury Secretary Mr Donald Regan's attacks on the Fed last week, Mr Reagan said: "I think that was what Secretary Regan was also trying to say."

The President's comments follow a widening split in the Administration between Mr Regan and Mr Martin Feldstein, chairman of the Council of Economic Advisers, about Fed policy which has contributed to a slump in bond prices on Wall Street.

Yesterday bond prices were marked sharply lower in highly volatile and thin early trading. Retail investors, stung by interest rate fears, steered clear of the market - apparently to further attempts by some professionals to lighten their portfolios and minimise potential trading losses.

At one point the new 13 1/2 per cent Treasury Long Bond auctioned last week as part of a package of \$16.5bn government paper was marked down in price by almost three full points.

By lunchtime, however, the new 30-year bond had recouped some of its earlier losses and was quoted at 97 1/2, a decline of about 1 1/2 since the Friday close and 2 1/2 since the \$4.75bn issue was auctioned last Thursday.

At the lunchtime price yesterday the new 30-year bond was yielding 13.60 per cent compared to an average yield of 13.43 per cent at the auction.

The old 12 per cent Treasury

Continued on Page 20

Editorial comment, Page 18; Wall Street report, Page 33.

CGT widens dispute over Citroën cuts

BY PAUL BETTS IN PARIS

WORKERS from the Communist-led CGT union occupied two more Citroën car plants yesterday as the conflict widened over the private French car company's plans to reduce its workforce by 13 per cent in France this year.

The occupation of the plants at Levallois and Nanterre, both near Paris, represents a direct challenge by the Communist party against the economic and industrial policies of President François Mitterrand, socialist leader of the coalition Government.

At Nanterre a few violent incidents between workers were reported by the unions, but the situation at Citroën's Aulnay sous Bois plant, also near Paris, remained calm. Production at Aulnay, the first plant to be occupied by CGT workers, has been halted since last Friday.

All the parties involved in the potential explosive dispute appeared to be trying to find a way of avoiding a repeat of the violent clashes which occurred during the traumatic labour dispute at the Peugeot group's Talbot plant at Posissy at the beginning of the year.

The Peugeot group, which owns Citroën and which recently reported a FFr 2.5bn (\$294m) loss for 1983, has taken legal action against the union to have its Aulnay plant cleared. The magistrate is due to

announce his decision today, but it is likely that all the parties will try to avoid sending in riot police to clear the plant by force.

In an attempt to defuse the conflict, M Pierre Bergey, the Social Affairs Minister, is due to meet representatives of the company and the unions today and tomorrow. The CGT has said it would continue the occupations until negotiations started between the union, the company and the Government.

But the pro-Communist union has also said it rejects Peugeot's plans to introduce compulsory redundancies at Citroën of 2,000 to 3,000 people out of a total of 6,000 job cuts.

The pro-Communist union, which was badly outmanoeuvred by its rival socialist CFDT union during the recent Talbot conflict, appears to be seeking to restore its credibility among its rank and file in the car industry with its theatrical and well-orchestrated action at Citroën.

Beyond the Citroën restructuring, the unions face a whole series of other serious labour situations in the French motor industry with the state Renault car group and the private Michelin tyre company also recently announcing sizeable workforce reductions. Moreover, the unions have also been shaken by the left-wing Government's severe steel and coal industry restructuring programmes.

Creusot-Loire given time to plan rescue

BY DAVID HOUSEGO IN PARIS

CREUSOT-LOIRE, the French engineering group which has sought protection from its creditors, yesterday was granted a two-month debt moratorium under French bankruptcy law.

The formal decision, announced by the Paris tribunal of commerce, gives the group until July 13 to work out a rescue plan in collaboration with three legal officers and two experts named by the court. The tribunal asked that the plan be made available within a month.

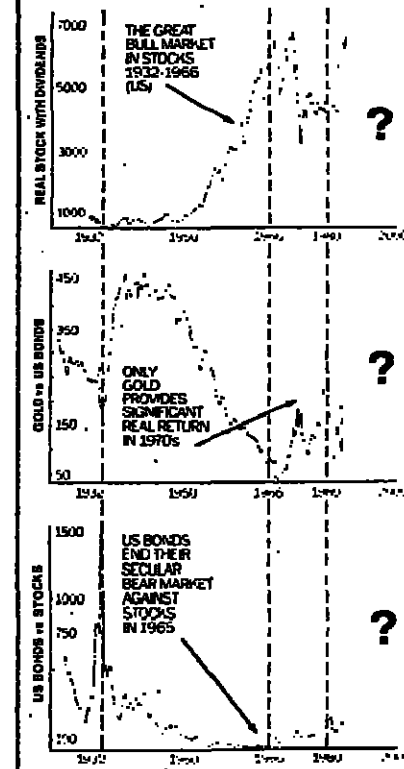
Creusot-Loire applied for relief from its creditors on April 25 after the Government refused its request for a FFr 2 to 2.5bn (\$294m) debt consolidation as a way of replenishing its exhausted capital. It was the first time that a French Govern-

ment had declined to bail out such a major French company of international repute, which made the case an important test of the Government's industrial policy.

It is hoped that the judicial procedures will provide a fresh opportunity for talks with the Government and the banks in order to maintain the integrity of the company. Creusot-Loire, which depends on the state for about 40 per cent of its turnover, argues that it would be industrial folly to break up a group which forms a coherent entity.

Creusot-Loire last year made losses of FFr 1.8bn and this year expects a further deficit because of a downturn in the capital goods market.

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EUROPEAN NEWS

Bonn may have to drop tax amnesty Bill

BY RUPERT CORNWELL IN BONN

THE West German Government was last night being propelled towards ignominiously dropping its unloved scheme for a tax evasion amnesty—less than a fortnight after its initial announcement.

This became clear yesterday following the massive resistance to the draft amnesty Bill, scheduled to go before Parliament on May 24, within the ranks of the Free Democrats (FDP), the junior coalition partners.

So far nothing is official. Herr Helmut Kohl, the Chancellor, re-affirmed yesterday that he still backed the plan, while the FDP leadership, after a tense but inconclusive meeting on

Sunday, is only due to take a final decision tomorrow.

But there appears little hope that Herr Hans Dietrich Genscher, the FDP leader and Foreign Minister, can resist pressure on him from the party's MPs and rank-and-file to make an embarrassing about-face.

Herr Genscher, whose personal prestige cannot but be damaged by the affair, is publicly maintaining his backing for the amnesty, agreed by the leadership of the three government parties—the Christian Democrats (CDU), the Christian Social Union (CSU) and the FDP—at the beginning of this month. But he let it be known yesterday that he was now tak-

ing a "realistic" view of the mood in his party. It was up to its members to decide according to their consciences.

If, the FDP does break ranks, there would be scant chance of credible passage for the Bill. The public mood is unmistakably against the idea, while the Social Democrat (SPD) opposition has warned that it would take the Bill, if passed, to the Constitutional Court.

It is also threatening to seek a provisional parliamentary order barring 17 MPs, who allegedly would stand to benefit from the amnesty, from voting in any debate.

Even leaving that possibility aside, the CDU/CSU union would still need at least a hand-

ful of FDP votes to secure the thinnest of parliamentary majorities.

Although a government spokesman last night would only say that the Bill's fate would depend on discussions within the coalition, the main aim now is to limit the damage. But that may not be easy. Herr Franz Josef Strauss, the CSU leader whose *bête noire* the FDP has long been, is already making capital out of this new proof of the party's "unreliability."

Meanwhile, Herr Genscher's ride at next month's FDP congress in Muenster is likely to be rougher than ever. Although his position as leader is not at risk, he seems bound to face

powerful criticism that his error of judgment over the amnesty has compounded the party's difficulties after a run of poor domestic election results and ahead of the European Parliament vote on June 17, when it will be fighting to clear the vital 5 per cent hurdle.

Most important of all, the amnesty row risks dealing a blow to the personal relationship between Herr Kohl and Herr Genscher which is crucial for the smooth functioning of the coalition.

The FDP rebellion comes only a week after the Chancellor, not entirely without difficulty, secured backing for the scheme from his own party congress in Stuttgart.

Ban on two rheumatism drugs sought

By Carla Rapoport

EUROPE'S consumers' organisations have called for a Community-wide ban on two rheumatism drugs which are alleged to cause serious side-effects.

At the same time, the developer and main manufacturer of the drugs, Ciba-Geigy, has made an unprecedented attack against the international consumer movement, claiming that it aims to "overturn the social structure" of Europe.

The Brussels-based European Bureau of Consumers' Unions has written to Mr Karl-Heinz Narjes, European Commissioner in charge of Consumer Affairs, asking him to forbid the use of anti-rheumatism drugs, phenylbutazone and oxyphenbutazone.

Britain's Committee on Safety of Medicines recommended in March that oxyphenbutazone be banned in the UK and that the second drug be placed under severe restrictions.

Ciba-Geigy has since said that it will contest the recommendation. The drugs are best known under their trade names Butazolidin and Tanderil. They have been in use since the 1960s.

Dr Louis von Planta, Ciba-Geigy's chairman, took the unusual step of speaking out against consumer organisations at the company's annual meeting in Basle recently.

Although not mentioning the latest moves against Ciba's rheumatism drugs, Dr Planta said: "The tactics of pressure groups are to use one-sided or even falsified presentations of concrete incidents or facts as a means of discrediting the multinational corporations and diminishing their credibility."

He specifically criticised international organisations concerned with consumer protection, the environment, and the Third World.

"Factual discussion with such groups is scarcely possible, since their criticism is often only a means to their political ends and factual discussion is the last thing they are interested in," claimed Dr Planta.

The recent campaign against Ciba-Geigy's rheumatism drugs was launched by consumer groups in the U.S. and the UK.

EEC will consider joint action against terrorism

BY JOHN WYLES IN BRUSSELS

BRITAIN YESTERDAY persuaded its EEC partners to consider joint action against international terrorism following last month's shootings in London outside the Libyan Peoples' Bureau.

The initiative at a meeting of Community foreign ministers will be followed by an attempt to mobilise firmer action against state-sponsored terrorism at the world economic summit in London on June 7-8.

But it was not clear yesterday how much support there is in the EEC for combined action. Preliminary exchanges at official level have revealed marked reluctance in other Community capitals to consider revising the Vienna Convention which governs the status and privileges of diplomats.

Sir Geoffrey Howe, Britain's Foreign Secretary, said that his colleagues recognised that the terrorist problem "will not go away" while part of the remedy lay in national measures, "it does call for wider consideration." EEC governments owed it to their

peoples to seek ways of checking terrorism.

Yesterday's meeting was one of the first for several months at which the issue of curbing Britain's payments to the EEC budget did not feature. Sir Geoffrey confirmed afterwards that the final solution would next be sought at the EEC summit at Fontainebleau on June 22-24.

Bilateral meetings between governments will continue to hammer away at the remaining controversial and difficult details. However, the dominance of the European elections from June 15-17 has persuaded all governments that the political pitfalls are too great to grapple again with the problem beforehand.

Ministers did give a reserved, and in some cases very critical, reaction to the Commission's proposals to raise an Ecu 2.3bn (£1.55bn) loan from member governments to cover this year's unprecedented budget deficit. They agreed to look for further economies in this year's expenditure before taking any final decision.

Fund aims to buy out ageing French bosses

BY DAVID MARSH IN PARIS

FRENCH COMPANY bosses are getting progressively older, more tired and more worried about the future. To try to inject more red blood corpuscles into the country's corporate arteries, a Government-backed scheme of finance was launched yesterday to enable elderly chairmen to move out of company hot seats earlier to make way for younger men.

The scheme is being put together by the CREDIT d'Equipe des Petites et Moyennes Entreprises (CEPME), the national financing body for small and medium companies. It intends

especially to support corporate management buy-outs and provide other means for family-owned enterprises to survive the often traumatic shock of the retirement or death of a founding chairman.

France's estimated 22,000 small and medium industrial companies (with between 10 and 499 employees) form the traditional backbone of France's corporate sector. But roughly half their chairmen are aged over 50—and are less growth-oriented and more cautious about stepping up investments and borrowing than younger bosses, according to a CEPME

survey. With about three-quarters of France's small and medium businesses family-owned, the CEPME says the "generation crisis" in the boardroom can lead to economic damage on a national scale if chairmen find insufficient or unsuitable heirs to take over their business.

About 10 per cent of French corporate bankruptcies are reckoned to be caused by transition difficulties after the *patron* dies, retires or changes job.

The scheme aims to channel around FFr 400m (£34m) a year in a mixture of subsidised loans

and equity injections into companies facing problems of succession. The funds will allow around 300 or 400 problem cases to be treated in a full year, according to M Pierre Sarrazin, the CEPME official who will become chairman of a new financing subsidiary called *Avenir Entreprises*.

The venture comes just six weeks after M Jacques D'ors, the Finance Minister, presented a range of government proposals for tax concessions and other financial help to boost risk capital ventures, management buy-outs and business start-ups in France.

Weather threat to Ireland's milk production

By Brendan Keenan in Dublin

IRISH FARMERS are praying for an end to the fine weather to help them exploit the country's hard-won increase in its milk quota this year.

Ireland gained approval from the EEC to increase production by 4.5 per cent this year only after Prime Minister Garret FitzGerald walked out of the Community summit last March.

Most Irish milk is produced from grass in the summer months. In fact, the relatively unsophisticated nature of the industry was one of the arguments advanced for Ireland's special treatment. Weather conditions can make a difference of several percentage points to annual production.

The sunshine has been a bonus so far, with production up 5 per cent on last year. But farmers are anxious because continued dry weather into June could reduce grass growth, and begin to cause problems. A shortfall in summer production would mean expensive winter feeding to meet the quota.

It is vital for the Irish to meet the target because they hope to be allowed further increases until their production reaches average EEC levels.

Thomson agrees DBS norm with Philips

BY PAUL BETTS IN PARIS

THOMSON, the French nationalised electronics group, and Philips, the Dutch electronics multinational, have agreed to work on a common standard for direct broadcasting by satellite.

The two companies, the two largest manufacturers of television sets in Europe, said yesterday it was of "utmost importance" to develop a common European standard for DBS.

The standard they are proposing is called the D2-MAC Paquets system. By adopting a

variation of the European Broadcasting Union's MAC standard for direct broadcasting by satellite, Thomson appears to suggest that France has finally decided to step into line with other European countries.

France has expressed reservations about the MAC norm and has supported a multistandard system involving the existing SECAM and PAL standards in Europe.

The Thomson/Philips standard appears to be a downgraded version of the existing

MAC system but which will enable direct broadcasting of sound and images into a cable television network without a special sound decoder. The existing MAC system requires a decoder.

The agreement comes a few days before an informal meeting of EEC industry ministers here on Friday when the problem of developing common standards for the European telecommunications industry will be high on the agenda.

Indeed, French telecommunications industry officials expect

the meeting to make progress on defining a common standard for telecommunications terminal equipment. The discussions are also expected to touch on plans to connect large European cities with optical fibre systems and to advance attempts to open up national telecommunications markets to competition within the EEC.

French officials have also expressed growing optimism about possible bilateral collaboration in the telecommunications industry with Britain.

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Lintes Zürich SBV 184

Craxi holds firm despite P2 row

BY JAMES BUXTON IN TURIN

SIG Bettino Craxi, the Italian Prime Minister, told his Socialist Party congress yesterday that he was not going to be knocked off course by the row that blew up late last week over the secret P2 Masonic lodge.

A political storm that is still rumbling broke out when the Prime Minister rejected the proffered resignation of Sig Pietro Longo, the Budget Minister, and two colleagues.

The Minister was protesting against a draft parliamentary report that appeared to confirm that he had been a member of the P2 lodge—something he has always denied.

Sig Craxi told the closing session of the Socialist Party congress in Verona that he had

acted correctly with Sig Longo, in response to what was a protest over a leaked copy of the report.

But he said there were still many serious questions about the P2 lodge and its activities that had to be properly answered.

The P2 lodge, a network of Italians in important positions to whom have been attributed many of Italy's major scandals, was discovered in 1981, causing the fall of the government of the day.

The Government is to make a statement to parliament on the issue of Sig Craxi's handling of the resignation offer by Sig Longo today. But it hopes to keep the issue at bay until the parliamentary commission in-

vestigating the lodge presents its final report, which it is due to do in mid-July.

Despite the solidity of support for Sig Craxi, demonstrated by the party congress, which unanimously re-elected him leader, the Government could face a difficult few weeks leading up to the next major event in the Italian political calendar, the European elections on June 17.

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NOTICE OF REDEMPTION

To the Holders of

Compañía Anónima Nacional
Teléfonos de Venezuela

8 1/4% Guaranteed Sinking Fund Debentures Due 1987

NOTICE IS HEREBY GIVEN that, pursuant to the provisions of the Fiscal Agency Agreement dated as of December 15, 1972, providing for the above Debentures, \$125,000 principal amount of said Debentures bearing the following serial numbers have been selected for redemption on June 15, 1984, through operation of the Sinking Fund, at the principal amount thereof, together with accrued interest thereon to said date:

OUTSTANDING DEBENTURES OF \$1,000 EACH OF PREFIX "M" BEARING THE FOLLOWING NUMBERS ENDING IN ANY OF THE FOLLOWING TWO DIGITS:

26	57	61
57 197 697 897 1197 1497 1897	2197 2297 2397 2497 2597 2697 2797	3697 3797 3897 3997 4097 4197 4297
5297 5397 5497 5597 5697 5797 5897	6297 6397 6497 6597 6697 6797 6897	7297 7397 7497 7597 7697 7797 7897
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On June 15, 1984, the Debentures designated above will become due and payable in such coin or currency of the United States of America as at the time of payment shall be legal tender for the payment of public and private debts. Said Debentures will be paid, upon presentation and surrender thereof with all coupons appertaining thereto maturing after the redemption date, at the option of the holder either (a) at the corporate trust office of Morgan Guaranty Trust Company of New York, 13th Floor, 30 West Broadway, New York, N.Y. 10015, or (b) at the main offices of any of the following: Morgan Guaranty Trust Company of New York in Brussels, Frankfurt am Main, London, Paris and Zurich; Bank Mosca & Hope NV in Amsterdam; Credito Romagnolo S.p.A. in Milan and Rome and Credit Industriel d'Alsace et de Lorraine, S.A. in Luxembourg. Payments at the offices referred to in (b) above will be made by check drawn on a dollar account, or by transfer to a dollar account maintained by the payee with a bank in New York City.

Coupons due June 15, 1984 should be detached and collected in the usual manner. On and after June 15, 1984 interest shall cease to accrue on the Debentures herein designated for redemption.

Compañía Anónima Nacional Teléfonos de Venezuela

Dated: May 9, 1984

NOTICE

The following Debentures previously called for redemption have not as yet been presented for payment:

DEBENTURES OF \$1,000 EACH															
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786	2185	3085	5586	7331	8199	9735	9825	10305	12005	12805	13053	14927			
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For some, happiness may add to misery

Senior Polish official to brief Pope on government policies

Soviet industrial output up 4.9%, but oil lags behind

Covering agricultural performance during the first four months of the year, Pravda said sales of meat from state farms were up by 8 per cent and sales of milk by 6 per cent compared with the January-May period in 1963.


Mr Jablonski's meeting with the Pope will be the first opportunity that General Wojciech Jaruzelski's government will have had to put its point of view since the papal visit to Poland last summer.

It is assumed that Mr Jablonski will want to outline future government policies, and the issue of the prisoners is

Soviet industrial output up 4.9% but oil lags behind

were up by 8 per cent and sales of milk by 6 per cent compared with the January-May period in 1983.
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David Brown	General Motors	Motorola	Tayside Audio (Scot) Ltd (INDIA)
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AMERICAN NEWS

Reagan in campaign to rescue MX missiles

BY REGINALD DALE, U.S. EDITOR, IN WASHINGTON

PRESIDENT REAGAN yesterday began a high-pressure campaign to rescue his MX intercontinental missile from a determined attempt to block production funds in the Democratic-controlled House of Representatives. The controversial 10-warhead missile is regarded on Capitol Hill as the most vulnerable weapons system in the \$29.1bn (£210m) Defence Appropriations Bill for fiscal 1985, on which debate is due to open in the House later this week.

Mr Reagan planned to use the next two days for intensive lobbying of House members by telephone and in personal meetings at the White House in a bid to save what he regards as

a key element of his overall strategic modernisation programme, officials said yesterday. The Administration, however, faced a dilemma over whether to continue to press for its full request of \$3.1bn for a second batch of 40 missiles, and risk losing all production funds, or settle for a compromise. The House last year approved a first instalment of 21 missiles by a narrow 9-vote margin only after heavy pressure from the Administration.

Mr Tip O'Neill, the Democratic House speaker and a leading MX opponent, now believes that the House will vote down all new production funding for the missiles, including a pro-

posal by the House Armed Services Committee that only 30 rather than 40 missiles be built next year.

Congressional backers of the MX have been trying to come up with a compromise by cutting the number to perhaps 15. Along with the Administration, they argue that to end production altogether would simply reward the Soviets for walking out of the Geneva Strategic Arms Negotiations (Start). Another compromise suggestion is that production funds only be released if Moscow continues to refuse to return to the negotiating table.

Bergsten pessimistic on London economic summit breakthrough

BY STEWART FLEMING IN WASHINGTON

THE LIKELIHOOD that the forthcoming economic summit in London would adopt measures to tackle the challenges posed by the international debt problem, growing protectionism and the misalignment of exchange rates was "virtually nil," Mr Fred Bergsten, director of the Institute for International Economics told U.S. Congressional committee yesterday.

In testimony to the joint economic committee he warned that the "debt bomb" continues to tick loudly, that the misalignment of

exchange rates revealed structural shortcomings in the monetary system and that the erosion of the international trading system was continuing as a result of growing protectionism.

In addition, he said severe imbalances in world economic recovery, due largely to high U.S. budget deficits and interest rates, should be addressed at the summit.

He said that although the record of past economic summits was uneven, the possibility was there for such meetings to agree on co-ope-

ative responses to a set of problems. The ingredients for a fairly extensive package could be there because of the growing awareness of the risks to the global economic system.

In some quarters however, there was genuine belief that all was well, that the U.S. was growing rapidly and that some of the problems could be much worse.

There was virtually no evidence that a package of initiatives to tackle world economic problems was being prepared, or even seriously contemplated.

Reports of unrest in the Guyana Defence Force

BY HUGH O'SHAUGHNESSY

UNREST IS reported from Georgetown among the Guyana Defence Force amid continuing criticisms of the Government's economic policy by opposition groups. Guyana's gross domestic product is expected to contract again this year after shrinking 10.6 per cent last year and 13 per cent in 1982.

Reports of unrest come in the wake of claims by Granma, the Cuban Communist Party daily, that the Reagan Administration is seeking to destabilise President Forbes Burnham and

reports in banking circles that Washington is favouring Comrade Hamilton Green, the agriculture minister, as a replacement for President Burnham.

President Burnham expelled two U.S. diplomats last May after charging that they had been interfering in Guyana's internal affairs. The Reagan Administration vetoed a \$10m loan from the Inter-American Development Bank to Guyana in August.

President Burnham has been in power for 18 years.

\$350m order for aircraft

By Michael Dwyer, Aerospace Correspondent, in London

MCDONNELL DOUGLAS of the U.S. has won an order worth over \$350m for six commercial DC-10 tri-jet airliners from Federal Express, the Memphis-based company which specialises in the overnight delivery of parcels throughout the U.S.

The aircraft are all freighter versions of the DC-10. The significance of the order is that it enables McDonnell Douglas to resume production of commercial models of the DC-10, halted some time ago because of lack of orders.

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UK group wins £60m Singapore cable order

Financial Times Reporter

BICC, THE British cable and contracting group, has won a £60m contract to supply super-tension cables to the Public Utilities Board of Singapore.

The cables are for transmitting electric power generated at the power station being built on the island of Pulau Seraya, on the south coast of Singapore.

BICC beat several Japanese and European bidders for the contract, which covers the 230 kv and 66 kv overhead transmission lines.

It also includes power lines to run from Senoko power station in the north of Singapore. Contracts for lines from Pulau Seraya to the Singapore mainland have not yet been let.

A significant feature of BICC's bid was a package put together by Midland Bank and Development Bank of Singapore to mix the rate of exchange for the 13-year period of an ECGD supported loan.

Manufacture of the cable will begin at BICC Super-tension Cables in Kent in the last quarter of this year. Part of the cable will be made at Wrexham in Wales.

Mr Ron Hutson, general manager of BICC Super-tension Cables, said the contract would provide about a fifth of the orders needed in the 1985-87 period. "It gives us a good base on which to build," he said.

BICC said this was the largest export contract ever won by one of its manufacturing subsidiaries. It is the second major contract won by a British company on the Pulau Seraya project.

Last year, Northern Engineering Industries won a £70m contract to supply three 250 megawatt turbine generators.

Swedes clinch iron ore deal

LKAB, the state-owned Swedish iron-mining company, which has emerged from a long period of decline to post a small 1983 profit, has announced an SKR 3bn (£360m) contract to provide ore to Finsko-Saigittite of West Germany over the next five years, David Brown in Stockholm writes.

The contract for 2m tonnes of ore pellets is regarded as a significant advance for the company. It is the second major contract won by a British company on the Pulau Seraya project.

EGYPTIAN arms sales

EGYPTIAN military exports have levelled off to \$500m a year after reaching a peak of \$1bn in 1982, according to senior defence officials, Charles Richard reports from Cairo.

Sales of arms, ammunition and spare parts to Iraq for Soviet-built equipment in the early stages of the Gulf war accounted for most of the \$1bn.

Ozal seeks Mideast work for surplus manpower

PRIME MINISTER Turgut Ozal of Turkey said here yesterday that his country was keen to fill Middle East demand for both goods and manpower.

"There is an Islamic saying that if one door is closed, Allah opens another," he said when asked what would be the effect of return of Turkish workers from West Germany, which could grow rapidly in future.

Over the years these "guest workers" have been a significant source of foreign exchange earnings for Turkey.

Mr Ozal, told a news conference at the end of his four-day official visit to Pakistan that "the immediate problem of workers returning from West Germany is not very serious," although many will come back.

He said Turkey was beginning to get construction contracts in the oil-rich Middle East, which could absorb some manpower from his country.

"We have considerable potential in construction and other fields in the Middle East," he said. He particularly mentioned construction work by Turkish companies in Saudi Arabia,

Libya, and Iraq, and said Iran offered a new possibility, after his visit to Tehran last week.

Mr Ozal said Turkey's exports to Middle East countries had expanded ten-fold, from \$300m in the early 1970s to \$3bn by 1982. Turkish imports from the Middle East now also stand at \$3bn.

He said Turkey was pinning much hope on expanding its business with Pakistan. He has offered a \$50m revolving credit to the Pakistan Government to finance imports from Turkish industrial goods and equipment. Terms for the credit have yet to be negotiated.

A group of Turkish businessmen who accompanied the Prime Minister agreed imports from Pakistan suppliers worth \$10m, Mr Ozal disclosed. The items include, urea, cotton yarn and grey cloth.

He offered to supply Pakistan a wide range of Turkish products including tractors and components, automotive components, parts for ships, petrochemical plant, and basic pharmaceuticals.

Some 152 jets will be built under the agreement at a plant near Ankara.

French industries move to step up collaboration with U.S. companies. David Marsh explains

State enterprises pursue transatlantic ventures

never do anything completely on our own," according to M Francis Lorentz, Bull's managing director.

Interest in the U.S. market is growing at both the Government and corporate level. France, which is traditionally well down the league of the main trading nations exporting to the U.S., boosted its American sales by 27 per cent last year, reducing its trade deficit with the U.S. to FFr 17bn from FFr 25bn in 1982.

France ranks eighth in foreign investment in the U.S., a long way behind Britain and the Netherlands but now French companies are seeking direct American acquisitions.

Recent American records by state-controlled groups are spread over several different sectors:

Computers Bull last month signed a technical and commercial co-operation agreement with Ridge Computers of California. It will acquire a 10 per cent stake in Ridge in exchange for taking the U.S. company's high-performance industrial and scientific computer into its product range.

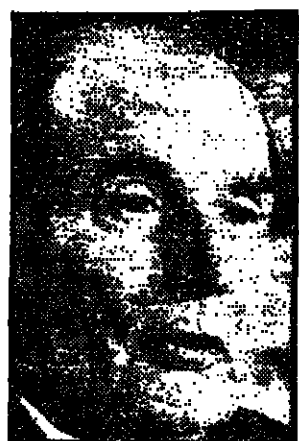
Thomson, in electronics, has agreed collaboration with two other Californian computer groups, Fortune and Eagle, over microcomputers.

Computer services group Tecti-Software, a subsidiary of CIT Alcatel, agreed in March to co-operate with Rank Xerox in developing and marketing artificial intelligence systems.

This followed a previous agreement between the French nuclear company Framatome and Californian company Teknowledge.

Matra, the state-controlled defence and electronics group, has also agreed to joint development and sales with Datapoint of computer terminals for the French office automation market.

Telecommunications CIT Alcatel's terminals subsidiary Telic has just taken a 20 per cent stake in Sonitrol,



President Francois Mitterrand (left) ... said to be particularly impressed by his conversation with electronics entrepreneurs and venture capitalists in California's Silicon Valley during a tour of the U.S. in March

a Virginia-based manufacturer of remote control security equipment, to strengthen its specialised marketing base in the U.S. Telic and other French companies have also concluded a marketing agreement with Honeywell involving distribution of French videotex systems in the U.S.

Integrated circuits Rhone-Poulenc, the chemicals group, has formed a joint venture with Siltec, based in Menlo Park, California, to manufacture in France silicon wafers used to make integrated circuits and other semiconductor products.

This enlarges on a string of existing agreements in semi-conductors between France and high technology U.S. groups such as Motorola, Intel, Harris and GCA. Motorola and Intel microprocessors, for instance, are integral parts of CIT Alcatel's best-selling E10 digital telephone exchange, and a Motorola "chip" forms the basis of the "smart" electronic payment card which Bull is now attempting to commercialise in the U.S.

Biotechnology Sanoel, the pharmaceuticals subsidiary of state oil group Elf Equitaine has just mounted a takeover bid for Wisconsin-based Dairyland Food Laboratories, which has a key position in applying bio-techniques in the milk sector.

Earlier this year, Rhone-Poulenc agreed a joint research venture with Seedco, a subsidiary of U.S. vegetable oil group Kay Corporation, to launch into crop seed production using genetic engineering techniques.

Medical equipment Thomson has announced joint research and marketing with California-based Diasonics to expand the French company's range of electronic diagnostic equipment.

Energy Dalas-Weir, a subsidiary of Alsthom Atlantique which like CIT Alcatel is part of the

nationalised CGE conglomerate, last month agreed joint marketing in the U.S. of specialised power station equipment with the U.S. company Combustion Engineering.

The state coal board Cdf has also announced an agreement on solar energy collaboration with Chronar of the U.S. which will be building a plant in north-east France to make panels of photovoltaic systems.

Although all these accords combine different research and marketing benefits for the partners, the lion's share involve some transfer of American technology to France.

President Francois Mitterrand, who toured the U.S. at the end of March, was said to be particularly impressed by his conversations with electronics entrepreneurs and venture capitalists in California's Silicon Valley.

In a marked change of tone from earlier policies towards supporting French industry, officials at the Paris Industry Ministry now talk of importing American risk capital methods to provide jobs in hard-hit regions like the Lorraine steel belt in eastern France.

In spite of official injunctions to step up links with other European companies, France's nationalised industries now realise that collaboration with the U.S. is vital to efforts to catch up in the technology race.

Japanese to raise EEC photographic paper price

By Paul Cheswright in Brussels

FUJIFILM Photo Industry of Japan are to raise the prices of their colour photographic paper on the EEC market following an anti-dumping investigation by the European Commission.

The Commission announced yesterday that it had accepted price undertakings from the two companies which had been found to have dumping margins respectively of 68.2 and 51.6 per cent. The resale prices of their products in the EEC had been undercutting domestic producer prices by nearly 20 per cent, the Commission said.

The anti-dumping investigation followed a complaint by Agfa-Gevaert.

But two other Japanese companies, Mitsubishi Paper Mills and Oriental Photo, were found by the Commission not to be injuring European industry.

Agfa-Gevaert lost over 30 per cent of its market share between 1980 and 1983 as Japanese sales of the photographic paper rose from 17.5m to 40.9m square metres.

Fuji and Konishiroku, when told the results of the anti-dumping investigation, agreed to raise their prices to a level which would not cause injury to the EEC industry.

MANAGEMENT AMIDST DIVERSIFICATION

A STRONG FUTURE IN SOUND, VISION AND MEMORY

Atsushi Nagai, President, Hitachi Maxell, Ltd.

By Geoffrey Murray

Hitachi Maxell, a member of the giant Hitachi electronics group, has come a long way from its origins as a maker of dry cell batteries. Founded in 1961 to take over the battery-making functions of another Hitachi subsidiary, it got its name from the first product: MAXimum capacity dry cell.

It also inherited the other company's magnetic tape division at an advanced stage in the research and development phase, turning this into its dominant business line—first in audio and then in video tapes. Business diversification over the years has followed a logical pattern. From dry cell and micro batteries, it was a natural step to start making battery-operated products like clocks, shavers, flashlights and small home appliances. Magnetic tape production has led to data and personal computer cassette tapes and floppy disks. The advance into computer memory has continued with the development of optical disks, providing a quantum leap in information handling capacity. Internationally, the diversification policy has led Hitachi Maxell into exporting battery plants to many countries, and into establishing tape manufacturing facilities first in the United States and more recently in Britain. The reasons behind such moves are explained by company President Atsushi Nagai.

Murray: What sort of company are you seeking to develop?

Nagai: Well the market is changing very fast due to innovations in the technical area, so we have made 1984 the year we want to move in a new direction by increasing the power of our R and D. Two years ago, we built a new laboratory at Tsukuba, the academic city being developed north of Tokyo. This is where we are making the big effort to develop new products, new fields, that are somewhat removed from the conventional ones. In the past we emphasized audio and video tapes, because these once represented new fields. But now, video tapes no longer promise high growth as we have seen up to now, although there is still some potential for product improvement.

Murray: Does that mean you are going to move away from magnetic tape production?

Nagai: No. Magnetic tapes are still by far our major product line and we do not take them lightly. They are still in the first line of our business.

One reason is that there is still room for further significant development, especially in video tapes. We are working on improving the audio characteristics and picture clarity of the existing half inch tapes. At the same time, there is great potential in the development of 8mm video tapes for lightweight cameras. I don't see any major developments in audio tapes, but improvements will continue to be made in sound quality.

"Electronic Devices and Instruments"

Murray: Where is the main thrust of your new product development at present?

Nagai: We are very keen to develop the potential of our electronic device and instrument group. We have some products already marketed, but we want to expand into new fields. One of the most important areas is computer memory. Using our long expertise in magnetic tape development, we have had good success with various floppy disks, particularly in the technology necessary to ensure their long life under all sorts of conditions. The demand for even greater information capacity has led us into the development of an optical disk that can store data equivalent to 40,000 sheets of letter-size paper. We will start selling these soon.

Murray: You have also become quite active in diversifying your production facilities overseas. What are your underlying motives for this?

Nagai: At present, half of our products are sold overseas. That is a



in seeking the location of our proposed plant. Production started in March, although the official opening is not until June. Initially the factory will produce 500,000 tapes a month, and will have a total staff of about 120.

"Unusual Approach to Recruiting"

Murray: The newspaper advertisements through which you sought to recruit staff were rather different than the normal ones. Why did you decide on this approach?

Nagai: Well, we thought about what was the most important thing that we would need in starting a

considerable amount and we felt that we could not go on for ever simply making these products only in Japan. We have been exporting technology and production plants for dry cell battery manufacturing for some time, but the shift overseas in the magnetic tape division only occurred four years ago. We first set up a plant near Atlanta, Georgia, because the United States is our most important market. Now, we have a video tape manufacturing plant at Telford in Shropshire. This was a natural step because Europe is our second largest market.

Murray: But why Britain and why Telford?

Nagai: Well, after considerable research Britain and West Germany emerged as the most promising candidates. And although there were good and bad points, Telford was eventually chosen because the people concerned were the most enthusiastic

factory in Britain. We were exporting the technology from Japan, so we felt the most important thing to stress in the recruitment advertisements was that the people seeking a job should understand the way we do things at Maxell. They should understand our philosophy and cooperate with us. Actually, they were not really recruitment ads. We wanted to present our ideas in establishing the Telford factory and we wanted to have people who were interested in those ideas come and ask us for a job. The response, I must say, was overwhelming. What we stressed, first of all, was that the people at the Telford factory would be part of the Maxell family. We wanted people who would be willing to do a wide range of jobs, with the knowledge that if they were enthusiastic and demonstrated talent they would be promoted. It is my impression that workers in England and America, for example,

generally tend to do only one type of work and refuse to do any other, if asked to do so by the management. They will say "it's not my field", or "I'm not supposed to do it". Our idea is that people have to be flexible and be willing to accept a wide range of responsibilities and accumulate a broad range of knowledge. I should say that the worker reaction to this has been very good. In return, it is the responsibility of management to create a company where people can work with pleasure.

"Long-Term Commitment Is Essential"

Murray: What would you say is the most important aspect you want to stress in your overseas operations like Telford?

Nagai: I tell my people who are working in both the American and British factories that it is necessary to continue their operation not just for my generation but also for those of my children and grandchildren. You cannot just close down the factory and come back to Japan any time that things aren't going so well. This means we have to keep on developing and introducing new products, continuing to maintain favour with our customers with the products that best fit their current needs. It's very difficult really, because even though you may be doing very well with your present products there is no guarantee that this will always be the case. But we have to be determined to continue the operation of these overseas factories at all costs. Because of this determination, I tell my Japanese and locally-hired staff that there may be times when we will have to make demands of them which will be very difficult.

Murray: Are there tangible ways in which you can display this long-term commitment?

Nagai: Well, one example is that one year after we opened the American factory in Conyers, Georgia, we presented the town with 500 cherry trees. These were planted not only in the factory grounds, but also along the roadsides and in front of the town hall. I am sure you know that cherry blossoms have a very deep symbolic meaning for us Japanese. In March 1984 these trees blossomed for the first time. So, my feeling is that now we cannot leave these trees behind and come back to Japan. The same applies to Telford. I think it is very important right now to do something that will make it extremely difficult, if not impossible for us, to leave.

maxell®

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OVERSEAS NEWS

John Elliott in Chandigarh sees a shadow cast on the industrial future of the Punjab

Sectarian threat to Indian hi-tech projects

THE good news for Indian industry is that the country's first microchip factory is now entering production. The bad news is that the factory is in Chandigarh, the city on the edge of the Punjab which is now a focal point for the demands of Sikh activists for more provincial autonomy.

The factory, wholly owned by the Indian Government, has been established in an area where foreign electronics companies such as Rockwell of the U.S., Hitachi of Japan and Philips of the Netherlands are also setting up. The projects illustrate the Punjab's potentially bright industrial future, which Sikh violence may now put at risk.

The \$50m factory, called the Semi-Conductor Complex, consists of two clean elegant low buildings separated by elegant fountains which also serve as an air conditioning plant.

The factory is controversial because it is being developed in anticipation of a substantial demand for microchips which does not yet exist in India. The Government hopes the factory will stimulate demand and encourage the development of indigenous electronics manufacturing.

The first totally home-produced chip was turned out in March, using process technology from American Micro Systems (AMS) of California. AMS is also helping to develop pulse diallers and other telecommunications devices.

A MEMBER of India's security forces was killed and 10 people injured yesterday in shootings and riots in the northern Indian states of Punjab and Haryana, according to the Press Trust of India.

Reuter reports that the agency said a member of a local home guard unit was shot dead and two people, including a policeman, were seriously injured when

extremists attacked a rail station near the Sikh holy city of Amritsar in Punjab. Eight people were injured in rioting in neighbouring Haryana. The rioters were protesting at the murder of a Hindu newspaper editor in Punjab on Saturday.

A 22-hour curfew was imposed in Amritsar on Sunday night as a precaution against a strike planned for yesterday in the two states and adjacent Himachal Pradesh to protest at the weekend murder.

● Sri Lankan separatists yesterday ordered guerrillas to free a kidnapped U.S. couple whom they had threatened to kill, the Indian news agency reported. According to Reuter it said, the release had been ordered of Mr and Mrs Stanley Allen, who had been abducted in northern Sri Lanka last Thursday.

who are now under attack in some areas of the Punjab by Sikh extremists but now Sikhs living abroad are starting to invest in the local high technology assembly projects.

The Agra Group of Dubai, owned by Sikhs who left the Punjab 25 years ago, is putting up 40 per cent of the equity in a \$50m project to produce India's first colour television tubes. The Punjab State Industrial Development Corporation has 11 per cent and publicly floated shares 39 per cent in the company, Punjab Display Devices.

The Agra Group is also putting up 40 per cent of the equity in a \$22m company in a project to produce magnetic tapes for computers and video recorders. In P. Singh Sidhu, a Sikh farmer's son who has electronics companies in the U.S., has set up one of only a handful

of companies in Chandigarh which produce only for export. Using materials imported from the U.S., it assembles magnetic heads for floppy disc drives at a price and quality which the Sidhu family says beats U.S. standards and almost equals the Japanese.

The disinvestment policy can be seen in action in the business of the Hindu Anand family, who have a battery-making collaboration with Toshiba of Japan. The family recently bought out a 26 per cent stake owned by one of the Punjab industrial corporations. Now it is setting up a \$48m joint venture with Philips and the Punjab Government to produce light bulbs.

When the French architect Le Corbusier set out to create a new type of environment in Chandigarh 30 years ago, he provided two legacies for this garden city. One is a cluster of large, gaunt concrete buildings which house the Punjab administration. The other, more pleasing, is the city's grid pattern of wide roads, which have a spaciousness that contrasts with the crowded bustle of most Indian towns. About 100 miles south of Simla the summer colonial refuge at the foot of the Himalayas, Chandigarh's location and atmosphere have been one of the factors that have built investment, the Government believes. It hopes that a garden city will become India's first Silicon Valley.

West Bank Rabbi arrested

By Lynne Richardson in Tel Aviv
RABBI MOISHE LEVINGER, the spiritual leader of the Israeli settlers on the occupied West Bank, has been arrested by police investigating the Jewish terrorist underground, which recently tried to blow up a number of Arab buses in Jerusalem.

His arrest came as an additional shock to the settlers, who had appeared recently virtually immune from police investigation alleged acts of vandalism or terrorism against the local Palestinian population.

Rabbi Levinger is the most prominent of the West Bank settlers arrested so far. He forced the Government to allow him to establish a Jewish settlement beside Hebron less than a year after the West Bank was captured from Jordan in 1967. He is a founder of the Gush Emunim settlement movement and has close ties with many leading politicians. His son-in-law is among the two dozen or so Gush Emunim members who have been arrested by the police so far.

Police questioned the rabbi a number of times before arresting him on suspicion of knowing in advance about some of the Jewish terrorist acts carried out against the Palestinians and of having given his personal approval for the acts. Rabbi Levinger said after the recent spate of arrests that he understood the motivations of the terrorists.

Early returns point to strong showing by Marcos opponents

By Chris Sherwell and Emilia Tagaza in Manila

EARLY unofficial returns in yesterday's parliamentary elections in the Philippines pointed to an unexpectedly strong performance by opposition parties, notably in the Manila area but a probable overall majority for the ruling party of President Ferdinand Marcos.

Turnout in the capital city area has reached 80-90 per cent, and while much of the polling appeared orderly, there were complaints of some irregularities: fictitious voters, ballot thefts, intimidation and removable indelible ink.

Last night's "quick count" in the 133 seats being contested was organised by the National Movement for Free Elections (Namfrel), an independent citizens' watchdog group set up two months ago. The early trends were based on an unofficial count.

Official results from the Commission on Elections are not likely before tomorrow, and fears were expressed last night that, even if the first unofficial count is genuinely indicative, the final result could well be different.

Mrs Teresa Niera, Namfrel's secretary-general, said yesterday that to judge by the number of complaints the movement's volunteers had been "very vigilant". In some places, Namfrel workers claimed they had been denied access to polling centres and had been threatened by local officials. Before polling started yesterday, a "clean sweep" of Metro-Manila's 21 seats for his ruling Kulintang Bagong Lipunan (New Society Movement).

But the returns suggested as many as half of these could go to opposition candidates, while elsewhere, the opposition parties appear to have won more support than expected. Before the election, the opposition's most optimistic projection forecasted wins in 60 seats, but this was heavily discounted by most analysts.

Mr Agapito "Butz" Aquino, who helped organise a move to boycott the elections, said last night that he genuinely hoped the opposition would win.

Nigeria's military Government yesterday launched its first anti-corruption trial in secret, in the face of a last-ditch effort by three former state governors to have their case postponed.

Brigadier Paul Omu, chairman of the special military tribunal, charged with trying politicians and officials of the former civilian government for corruption and "economic sabotage," made an opening statement in public before continuing the proceedings in camera.

More than 500 people are being held in detention in Lagos and the 19 states of the federation under a decree to recover public property, including former President Shugu Shagari and his Vice-President, Dr Alex Ekwueme.

The only indication of who was to be tried first came in the Lagos High Court, where three former state governors of the opposition Unity Party of Nigeria (UPN) now leave to seek an injunction prohibiting the tribunal from hearing their case.

Permission was given to Chief Olabisi Onabanjo, former governor of Ogun state, Chief Bola Ige, former governor of Oyo state and Chief Michael Asiwaju, of Ondo state, to press their case at an emergency sitting on Thursday. However, the court decided to halt the proceedings of the special tribunal in the meantime.

The ex-governors said in their submissions that they had been charged with corruptly obtaining a contribution of N2.8m (£2.6m) from the Nigerian subsidiary of the French construction company Bouygues, for the UPN. Both the governors and the company deny the charge.

It said two separate guerrilla units sabotaged offices of the Department of Internal Affairs and the railway police in Durban, and also attacked the Mobil oil installation in the city.

The conference bit off a bit more than it could chew, said an African diplomat who has been closely following the talks. "A broad agreement on the demand for independence was within reach, and that came almost too easily. When the conference decided to move beyond that, the complications set in."

Confidence officials yesterday expressed the belief that negotiations would continue, albeit at a lower level.

The administrator general of Namibia, Dr Willie van Nierkerk, was expected to report back to Mr

The after-tax profit for the year was £16.79m, an increase of 24 per cent

In the Report and Accounts for the year 1983 the Chairman, Mr. R. E. Holland, states:

On this first occasion on which I am reporting to you as Chairman, I am pleased to be able to record that after-tax profit has increased by 24.0 per cent, being £16.79 million for the year against £13.55 million for 1982. The recommended final dividend of 21p makes a total for the year of 23p, at a cost of £1.188 million.

Transfers from the long-term funds have increased by 29.3 per cent. This wholly exceptional increase, which is not likely to be repeated in another year, is mainly as a consequence of the very considerable improvement which we have been able to make in the terminal bonus granted to our life assurance policyholders following a reassessment of our policy in this respect. We believe that the rates we have now declared—double those for last year in the main classes of policies in the ordinary branch and 60 per cent higher in the industrial branch—more closely reflect the underlying strength of our funds. Whilst, by its nature, terminal bonus is intended to fluctuate upwards or downwards, with the capital growth of our investments, if such growth were to continue at the same rate as in the past we should be able to maintain these rates. At the same time we have also been able to make modest increases in reversionary bonuses in both life branches this year, but again it is unlikely that large increases in these bonuses will be possible in future. All in all, therefore, it must be expected that the future transfer to profit from the life branches—which is essentially a proportion of the cost of business to policyholders—will more closely reflect the increase in our life business and will not grow as sharply as it has done this year and last year.

SATISFACTORY GROWTH

New life business in both branches has grown at a very rapid rate. In the ordinary branch a big contribution came from the introduction of mortgage interest relief at source (MIRAS) which gave us the opportunity to sell a large amount of low-cost endowment assurance business, which would not otherwise have been available. However, all other types of business expanded also, in both the ordinary and industrial branches. This owes a great deal to the energy and ability of our staff in the field and the support given by staff at chief office. We consider that the Company's Development Plan, and in particular the introduction of new grades of marketing officials and the new methods of planning performance objectives with the staff, has made a substantial contribution. We benefit from having a better trained and better motivated staff than we had in the past.

The premium income for long-term business, including that of the subsidiaries, has increased by 11 per cent, in a year when the retail price index increased by a little over 9 per cent. Our staff have benefited from this, in the field through increased commission and at chief office by an increase in productive payment. Nevertheless, expansion of business by more than the rate of inflation also increases the surplus available to policyholders and shareholders by reducing the effect of these elements of the expenses that are independent of the volume of business. The consequential reduction in the expense ratio is one reason why we have been able to make some increases in the reversionary bonus.

The general branch has been less successful than the life branches. Although premium income has increased by 1 per cent, a substantial part of this increase has come from overseas branches and not from our main U.K. operations. The underwriting loss has increased by about £1 million and the trading profit has decreased by about £575,000. In the other hand, the marine, aviation and transport business has improved substantially with premium income up by 40 per cent and the transfer from profit and loss account down by \$850,000. As a result, the total profit on short-term business has improved from £347,000 to £622,000.

Pearl Assurance Public Limited Company, Registered in England (1419). Registered Office, High Holborn, London WC1V 7EB

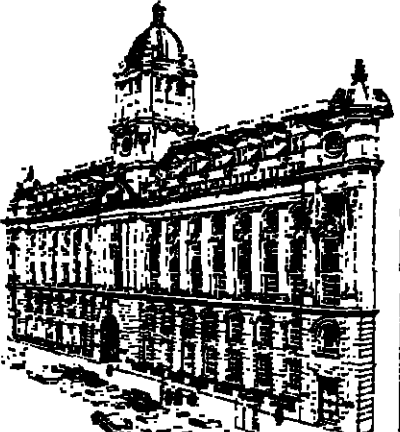
REORGANISATION

Our Company Development Plan has continued to progress well. The non-recurring costs of reorganisation have been met from life branch and general branch reserves, as appropriate, as they were last year. We have also made a significant improvement in the terms of our Staff Superannuation Fund by reducing the normal retirement age of male staff to 64. Part of the cost of this has been met by the payment of a lump sum in 1983, but the effect is spread over three years by making transfers from the reserves in the same way as we have met Company Development Plan expenses.

INDUSTRY DEVELOPMENTS

Several controversial developments have arisen in the life assurance industry during the last 18 months and I am sure you will wish me to comment on them. The most important matter affecting the Company's affairs has been the abolition of life assurance premium relief for policies completed after 14th March this year. This relief has been available, in one form or another, for as long as the Pearl has existed. It has been of invaluable assistance in encouraging the public to provide for their retirement or protect their families against their early death, and has made available for investment funds that would otherwise have been spent. While I must admit that the misuse of relief by some other offices in recent years has invited retribution, I can only deplore its sudden and total withdrawal for public policies. Generally speaking, the Pearl serves the small individual saver and money that we do not collect will not be saved. It is a pipe-dream to suppose that the man who saves one or two pounds a week will invest it himself in industry if he does not take out a life policy.

The Annual General Meeting of the Company will be held on 6th June at 12 noon at the Registered Office, High Holborn, London WC1V 7EB.



District Offices throughout the United Kingdom.

PEARL ASSURANCE PLC

SALIENT POINTS FOR THE YEAR

	1983	1982
Life business (including subsidiaries)		
New premiums and considerations	57.8	45.5
Single premiums and considerations	24.0	16.7
New sums assured	104.1	81.7
Premium income	288.1	259.2
Life surplus allocated to policyholders	127.0	98.1
Assets of Long-term business		
At market values	3,242	2,689
General branch		
Premium income	71.4	66.9
Underwriting result	0.8 (loss)	7.0 (loss)
Trading result	0.8 (profit)	1.1 (profit)
Profit and loss account		
Transfers from long-term business	14.1	10.9
Transfers from short-term business	0.6	0.4
Investment and other income, less expenses and taxation	1.7	2.0
Assets of Short-term business and Stockholders' Funds		
At market values	30.2	16.9
Total assets of the group, at market values, increased from £2,959 million to £3,561 million.		

However, I very much doubt if the effect on the Pearl will be as serious as the initial stock-market reaction might have implied. This opinion is based on the morale and enthusiasm of our staff, their good standing with the public, the financial strength and reliability of the Company and our history of adapting successfully to change over a very long period of time. I firmly believe that we will continue to play a very substantial role in providing our customers in all walks of life with the protection and the savings facilities that they require, and we have expressed our confidence in the future by treating 1983 on its merits as a successful year and increasing our distributions to policyholders and shareholders accordingly. You will incidentally have noted that the 1984 Budget also contained proposals which will benefit the Company.

The abrupt introduction of this change in LAR meant that many of our policyholders completed proposals before 14th March for policies that were not completed in time to qualify for relief. As a concession to them, the Company is paying the relief on behalf of all policyholders whose proposals had been received at chief office by March 15. The cost, which will reduce surplus in future years, is expected to be upwards of £500,000 per annum.

COMMISSIONS

The second development on which I would comment is the demise of the Life Offices Association commissions agreement, to which my predecessor referred last year. Negotiations have continued throughout 1983 and into 1984 to set up a new Registry of Life Assurance Commissions (ROLAC) to replace the commissions agreement. Since the Pearl obtains virtually all its life assurance business through its own staff, ROLAC is of only marginal importance to us. Nevertheless, we consider that an orderly market is of great importance to the industry as a whole and have supported ROLAC throughout. Although the broker offices might indirectly benefit the Pearl by improving our competitive situation, we think that public confidence in life assurance is of greater importance.

PENSIONS

Another topical subject is that of portable pensions. It has been suggested that individual workers should have more control over their financial future by providing personally for their pensions rather than being part of a group scheme, insured or self-administered.

While we doubt whether they would be as willing to provide for their own pensions as proponents of the portable pensions scheme believe, we do only a small amount of group pension business, and would have little to lose if the group pension market should break up. Conversely, we write a great deal of individual retirement annuity business and might well write more if portable pensions were introduced.

THE GOWER REPORT

I must refer also to Professor Gower's final report on investor protection. A lengthy section of this report deals with life assurance as a savings medium. We consider that the final report is a great improvement on the original discussion document. The specific references to insurance business are almost entirely ones which we can fully support. While we agree with Professor Gower's wish to deter policyholders from taking out industrial branch contracts when they could afford and would be better off with ordinary branch contracts, we think his specific suggestion to that effect may not be the best. We are supporting the Industrial Life Office Association in searching for alternatives.



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NOTICE

To holders of

MONSANTO INTERNATIONAL FINANCE COMPANY'S

4 1/2% Guaranteed Income Fund

Debentures Due 1985

(convertible on and after May, 1986 into Monsanto Company Common Stock)

Pursuant to Section 4.06(a) in the indenture dated of October 15, 1983 relating to the above debentures, notice is hereby given that on April 27, 1984 a two-for-one stock split effected in the form of a stock dividend on Monsanto Company Common Stock was declared to holders of record of Monsanto Company Common Stock at the close of business on May 15, 1984. A certificate setting forth the adjusted conversion price and differential amount shall be filed with the trustee and as the officers of said adjustment will be published after May 15, 1984.

MONSANTO INTERNATIONAL FINANCE COMPANY

Dated: May 10, 1984

Middlesbrough The River Tees Offshore Centre



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Dow Corning Overseas Capital Company N.V.

8% PER CENT. GUARANTEED DEBENTURES DUE 1986

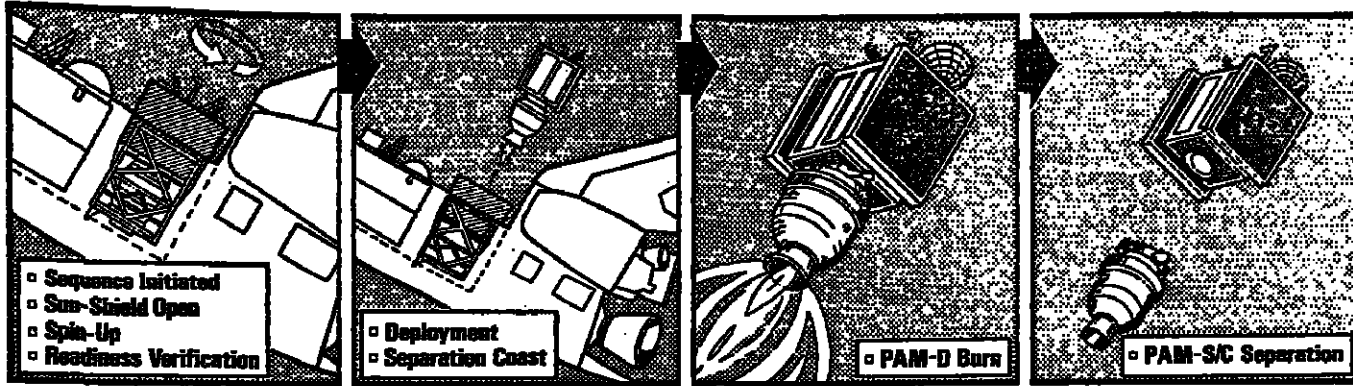
NOTICE IS HEREBY GIVEN that, pursuant to the provisions of the Indenture dated as of June 15, 1977 under which the above described Debentures were issued, Citibank, N.A. (formerly First National City Bank), as Trustee, has drawn for redemption on June 15, 1984 through the operation of the Mandatory Redemption Provision of the said Indenture, \$2,118,000 principal amount of Debentures of the said issue, bearing the following distinctive numbers:

COUPON DEBENTURES OF \$1,000 PRINCIPAL AMOUNT

1029	2665	4944	7344	9803	12244	14644	17044	19444	21844	24244	26644	29044	31444	33844	36244	38644	41044	43444	45844	48244	50644	53044	55444	57844	60244	62644	65044	67444	69844	72244	74644	77044	79444	81844	84244	86644	89044	91444	93844	96244	98644	101044	103444	105844	108244	110644	113044	115444	117844	120244	122644	125044	127444	129844	132244	134644	137044	139444	141844	144244	146644	149044	151444	153844	156244	158644	161044	163444	165844	168244	170644	173044	175444	177844	180244	182644	185044	187444	189844	192244	194644	197044	199444	201844	204244	206644	209044	211444	213844	216244	218644	221044	223444	225844	228244	230644	233044	235444	237844	240244	242644	245044	247444	249844	252244	254644	257044	259444	261844	264244	266644	269044	271444	273844	276244	278644	281044	283444	285844	288244	290644	293044	295444	297844	300244	302644	305044	307444	309844	312244	314644	317044	319444	321844	324244	326644	329044	331444	333844	336244	338644	341044	343444	345844	348244	350644	353044	355444	357844	360244	362644	365044	367444	369844	372244	374644	377044	379444	381844	384244	386644	389044	391444	393844	396244	398644	401044	403444	405844	408244	410644	413044	415444	417844	420244	422644	425044	427444	429844	432244	434644	437044	439444	441844	444244	446644	449044	451444	453844	456244	458644	461044	463444	465844	468244	470644	473044	475444	477844	480244	482644	485044	487444	489844	492244	494644	497044	499444	501844	504244	506644	509044	511444	513844	516244	518644	521044	523444	525844	528244	530644	533044	535444	537844	540244	542644	545044	547444	549844	552244	554644	557044	559444	561844	564244	566644	569044	571444	573844	576244	578644	581044	583444	585844	588244	590644	593044	595444	597844	600244	602644	605044	607444	609844	612244	614644	617044	619444	621844	624244	626644	629044	631444	633844	636244	638644	641044	643444	645844	648244	650644	653044	655444	657844	660244	662644	665044	667444	669844	672244	674644	677044	679444	681844	684244	686644	689044	691444	693844	696244	698644	701044	703444	705844	708244	710644	713044	715444	717844	720244	722644	725044	727444	729844	732244	734644	737044	739444	741844	744244	746644	749044	751444	753844	756244	758644	761044	763444	765844	768244	770644	773044	775444	777844	780244	782644	785044	787444	789844	792244	794644	797044	799444	801844	804244	806644	809044	811444	813844	816244	818644	821044	823444	825844	828244	830644	833044	835444	837844	840244	842644	845044	847444	849844	852244	854644	857044	859444	861844	864244	866644	869044	871444	873844	876244	878644	881044	883444	885844	888244	890644	893044	895444	897844	900244	902644	905044	907444	909844	912244	914644	917044	919444	921844	924244	926644	929044	931444	933844	936244	938644	941044	943444	945844	948244	950644	953044	955444	957844	960244	962644	965044	967444	969844	972244	974644	977044	979444	981844	984244	986644	989044	991444	993844	996244	998644	1001044	1003444	1005844	1008244	1010644	1013044	1015444	1017844	1020244	1022644	1025044	1027444	1029844	1032244	1034644	1037044	1039444	1041844	1044244	1046644	1049044	1051444	1053844	1056244	1058644	1061044	1063444	1065844	1068244	1070644	1073044	1075444	1077844	1080244	1082644	1085044	1087444	1089844	1092244	1094644	1097044	1099444	1101844	1104244	1106644	1109044	1111444	1113844	1116244	1118644	1121044	1123444	1125844	1128244	1130644	1133044	1135444	1137844	1140244	1142644	1145044	1147444	1149844	1152244	1154644	1157044	1159444	1161844	1164244	1166644	1169044	1171444	1173844	1176244	1178644	1181044	1183444	1185844	1188244	1190644	1193044	1195444	1197844	1200244	1202644	1205044	1207444	1209844	1212244	1214644	1217044	1219444	1221844	1224244	1226644	1229044	1231444	1233844	1236244	1238644	1241044	1243444	1245844	1248244	1250644	1253044	1255444	1257844	1260244	1262644	1265044	1267444	1269844	1272244	1274644	1277044	1279444	1281844	1284244	1286644	1289044	1291444	1293844	1296244	1298644	1301044	1303444	1305844	1308244	1310644	1313044	1315444	1317844	1320244	1322644	1325044	1327444	1329844	1332244	1334644	1337044	1339444	1341844	1344244	1346644	1349044	1351444	1353844	1356244	1358644	1361044	1363444	1365844	1368244	1370644	1373044	1375444	1377844	1380244	1382644	1385044	1387444	1389844	1392244	1394644	1397044	1399444	1401844	1404244	1406644	1409044	1411444	1413844	1416244	1418644	1421044	1423444	1425844	1428244	1430644	1433044	1435444	1437844	1440244	1442644	1445044	1447444	1449844	1452244	1454644	1457044	1459444	1461844	1464244	1466644	1469044	1471444	1473844	1476244	1478644	1481044	1483444	1485844	1488244	1490644	1493044	1495444	1497844	1500244	1502644	1505044	1507444	1509844	1512244	1514644	1517044	1519444	1521844	1524244	1526644	1529044	1531444	1533844	1536244	1538644	1541044	1543444	1545844	1548244	1550644	1553044	1555444	1557844	1560244	1562644	1565044	1567444	1569844	1572244	1574644	1577044	1579444	1581844	1584244	1586644	1589044	1591444	1593844	1596244	1598644	1601044	1603444	1605844	1608244	1610644	1613044	1615444	1617844	1620244	1622644	1625044	1627444	1629844	1632244	1634644	1637044	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TECHNOLOGY

EDITED BY ALAN CANE



The sequence of operations by which the U.S. payload assist module (PAM) should boost satellites from the cargo bay of the shuttle. Three months ago, two of the modules failed to work properly—and engineers have still not discovered why

Ground test for suspect space motor

BY PETER MARSH

A GROUND test of a rocket motor next month in Tennessee could end several months of agonising over the future of an important component in putting satellites into orbit.

The motor is part of a payload assist module (PAM) made by McDonnell Douglas, the U.S. aerospace company. These modules act as an upper rocket stage in satellite launches that use either the U.S. space shuttle or the Delta expendable rocket.

McDonnell Douglas engineers aim to test the motor at the rocket development centre in Tullahoma, Tennessee. The trial could pinpoint the cause of an expensive mishap in February when two PAMs malfunctioned, putting two satellites into the wrong orbits.

Engineers at the aerospace company will decide by the end of May whether to go ahead with the test, which would attempt to repeat what happens when the module fires in space.

In the ground trial, engineers plan to attach sensors to the hardware to follow any possible malfunctions caused by changes in the engine's ignition pattern. Satellite owners are concerned that the problem could re-occur on later flights.

Already Telesat, a company in Toronto half-owned by the Canadian Government, has rescheduled a satellite launch with the PAM from next month to mid-1985.

Hughes Aircraft, which with the aid of a module was due to put into orbit one of its Galaxy satellites at the end of May, has put back the date by two months.

Satellite Business Systems and AT & T also plan to use PAMs later this year. So far, these companies have not altered the launch dates.

Britain's Ministry of Defence has ordered two of the rocket

motors to assist in the launch of its new SkyNet-4 military satellites, due to enter the heavens in 1985 and 1986.

The PAMs are due to feature in the injection into orbit of another set of military satellites, the NAVSTAR navigation satellite owned by the U.S. Air Force.

McDonnell Douglas hopes that if it can pinpoint the cause of the mishap, it can if necessary change the design of the PAMs

and mollify customers.

The launch programme of the National Aeronautics and Space Administration's space shuttles could be disrupted by a prolonged controversy over the PAM. Over the next couple of years, about a dozen satellites are due to be launched from the shuttles with modules.

The devices are fixed to satellites anchored in the shuttle's cargo bay. The modules boost

the satellites from the shuttle's altitude of about 400 km to the geostationary orbit 36,000 km above the planet that is used for communications.

Alternatively, the modules, which cost about \$5m each, can function as the final stage of a Delta rocket. Deltas are conventional launch vehicles which are expended in the course of taking payloads into space.

On the 10th shuttle flight three months ago, two payload assist modules misfired and put communications vehicles, owned by the Indonesian Government and Western Union, into the wrong orbits. As a result, the satellites are drifting too close to the earth and are useless for communications.

Prior to the accident, PAMs had an unblemished record. They had successfully put into orbit 16 commercial satellites and two military vehicles owned by the U.S. Department of Defence.

Immediately after the mishap, McDonnell Douglas, which makes the modules at a factory in Huntington Beach, California, set up an inquiry team to search for evidence that could pinpoint the cause.

Engineers believe that a small nozzle that protrudes from the rocket's motor may have been faulty. The nozzle, made of composite material, acts as a conduit for exhaust gases that are responsible for the rocket's propulsion. According to one theory, the nozzle on both of the errant PAMs was incorrectly shaped. This could have been either because of a design fault or a problem in manufacturing.

The motors fitted to both satellites should have burned for 56 seconds to put their payloads into the geostationary orbit. But because of the defect, they produced jets for a much shorter time, which sent the satellites tumbling too close to the earth.

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Prior to the accident, PAMs had an unblemished record. They had successfully put into orbit 16 commercial satellites and two military vehicles owned by the U.S. Department of Defence.

Immediately after the mishap, McDonnell Douglas, which makes the modules at a factory in Huntington Beach, California, set up an inquiry team to search for evidence that could pinpoint the cause.

Engineers believe that a small nozzle that protrudes from the rocket's motor may have been faulty. The nozzle, made of composite material, acts as a conduit for exhaust gases that are responsible for the rocket's propulsion. According to one theory, the nozzle on both of the errant PAMs was incorrectly shaped. This could have been either because of a design fault or a problem in manufacturing.

The motors fitted to both satellites should have burned for 56 seconds to put their payloads into the geostationary orbit. But because of the defect, they produced jets for a much shorter time, which sent the satellites tumbling too close to the earth.

A combination to excite Einstein and Eisenstein

IF SERGEI EISENSTEIN and Albert Einstein were alive today and could be persuaded to collaborate, the moving picture business would be in for the most exciting time in its history.

The mathematician is well enough known for enunciating the principle that observable phenomena are meaningless until related to the observer and the environment—everything in life is relative.

The Russian Eisenstein is perhaps less well known as one of the pioneering film-makers of the 1920s who postulated the principles of film montage—the juxtaposition of two shots by splicing them together resembles not so much the simple sum of one shot plus another—as it does a creation. Thus, despite the sequential nature of film, the medium was seen as having the power of additive synthesis.

This malleability of film fascinated the early pioneers of cinema, promising a new language of communication. But since then, the idealism has been lost, overtaken no doubt by the narrative power which comes more readily to a linear medium.

Maybe Eisenstein and Einstein would be stimulated, however, by the new linguistic promise of the video disc; a medium which allows the programme maker or the viewer to display shots, sequences or merely still pictures in any order or permutation at will. The narrative and linear concepts of film become less important, and the original ideas of Eisenstein and others—once known as "intellectual montage"—suddenly become valid again.

Albert Einstein, too, would be fascinated because the video disc creates an expandable time frame in which the relationship between the component parts of every programme is not fixed. And, indeed, in which the relationships of visual images can be controlled or analysed on a mathematical basis. For example, every single frame of the 25 per second which comprises a moving television picture can, on a video disc, have a code number ascribed to it—so that every picture or frame thereafter can be displayed, changed, or rearranged by numerical processing as with a computer.

The practical consequences of this are still difficult to grasp with a medium in its infancy. Even the most popular application—interactive video—is a

concept which confuses most people. Interactive video merely places some control in the hands of the viewer, allowing him to stop the programme, consider perhaps a question posed by it, and then advance to some other part of the programme relevant to the question or answer; in more sophisticated systems, an interactive video programme will itself determine which part of the programme will be next displayed—depending on the responses of the viewer (via a numerical keypad).

New and innovative ideas such as these are now beginning to catch the imagination of the video business. But undoubtedly the most mind-bending application for the video disc, recently announced in the U.S., at last puts this extraordinary medium into perspective—and firmly in an area that would have fascinated Einstein. The idea comes from Chrysler in an experimental application of video discs as an in-car navigational system.

With the acronym CLASS (Chrysler Laser Atlas and Satellite System), this application of video discs offers the car driver an instant and accurate navigational system. The disc holds 15,000 maps, plus other visual information, and the video disc player is constantly linked by radio signals to four of the five NAVSTAR satellites—which are in a geostationary orbit. These satellites provide constant reference point to monitor the position of the car—by triangulation—any relay back to the player appropriate data on latitude, longitude, elevation and time. This information in turn automatically "selects" the appropriate map for display from the video disc and superimposes on the map the car's precise position.

Such ideas for video communication are not such a far cry from Eisenstein, who compared film with hieroglyphics: an additive picture language where words become redundant. Pictures are also a much denser way of storing information than words. The problem is that we still have not discovered how to use pictures as a fluent language. The video disc offers great scope for discovery, with the advantage—of which Einstein would surely approve—of making moving pictures amenable to mathematical analysis. It may seem almost incomprehensible, but it is beginning to happen.

The unique point about this particular demonstration was that the selection of images and sequences from each video disc player was manually controlled by a producer/director—Bernd Kracke—who is a research fellow at the Centre for Advanced Visual Studies at MIT. Thus every "performance" was different and could be responsive to the reactions of the audience.

Alongside this, the announcement of Britain's first major video disc juke box contract,

Video & Film

BY JOHN CHITTOCK

Interactive video has found obvious appeal in training. Numerous systems are available, some based on videotape. One example is CAVIS (Computer Audio Video Instruction), a system recently adopted by International Paint to train staff at all levels and in several languages. The individual trainee can sit in front of the CAVIS television screen, view the training programme at a self-paced speed—stopping and starting, going to other parts of the programme in response to questions and so on. Text on the TV screen is generated separately and the progress of the learner is also recorded as data for later inspection by the trainer.

There are, however, creative applications of interactive video that might have fascinated Eisenstein. Thorn EMI has recently provided one example using the VHD video disc player at the Festival du Son et l'Image in Paris, where 12 video projectors were fed pictures from four VHD players for display on a specially constructed "videodrome".

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Alongside this, the announcement of Britain's first major video disc juke box contract,

The good news is
FERRANTI
Selling technology

Computing
Bromcom
for Cyprus

BROMCOM, a Bromley-based UK computer company, is to set up manufacture in Cyprus. The aim is to make computers to sell into burgeoning markets in the Middle East and Turkey.

The company has designed the SuperStar range of computer which are aimed at small and medium-range companies. The range provides office automation tasks and accounting based on the concept of several processors carrying out several jobs simultaneously.

The new plant will be at Famagusta in Cyprus where work is expected to start in the summer. More details from the company on 01-290 6044.

Process
Imperial
control

A PROJECT to introduce computer techniques in the teaching of process control and chemical engineers is about to start at Imperial College of Science and Technology.

IBM, the U.S. computer company, is collaborating with Imperial College in the work. It will provide on secondment IBM specialists, provide computers, and software and funds for posts at Imperial.

The project will run for three years.

Acorn seed

ACORN Computers has invested £400,000 in a small communications company called Torus. Set up by Stephen Ives and Stephen Jolley, Torus will market its first product at the end of this month.

This will be a graphics controlled local area network to form a link between IBM personal computers. Colour graphics simplifies the action of communication between machines.

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UK NEWS

Mercury fights pressure over expansion targets

BY GUY DE JONQUIERES

MERCURY COMMUNICATIONS, the privately owned competitor to British Telecom, is resisting strong government pressure to commit itself to firm targets for the future expansion of its UK network and services.

The issue has come to a head in negotiations over Mercury's future licence, due to be published later this year. To help it secure the best possible terms from the Government, the company has engaged an American expert on telecommunications regulation.

It has been seconded from Pacific Telesis, the large U.S. west coast telephone company, which has expressed an interest in taking an equity stake in Mercury.

The licence negotiations have led to a marked divergence and some tension between the Department of Trade and Industry and Mercury's management over the company's objectives and development strategy.

The Government wants Mercury to invest heavily to extend its services as soon as possible to the whole of the UK and to give a high priority to poorer and more remote parts of the country, particularly north-east England and Scotland.

The Department of Trade is seeking assurances that Mercury will expand its planned network to certain areas by specified dates and

will aim to ensure that its business is not too highly concentrated in any one area of the country.

There have been suggestions in Whitehall that Mercury is not pursuing a sufficiently aggressive strategy. But the company has told the Government that as a commercial venture its first priority must be to seek a profit not to meet political objectives.

It wants to focus initially on large business customers in cities such as London, Birmingham and Manchester and to expand closely in line with demand.

Mercury is understood to have about two dozen customers and says that it has been taking orders at the rate of about one a week since the start of this year. It has declined to name its customers so far, though it may do so later this year.

It does not rule out operating a nationwide service eventually, if that proves commercially worthwhile. But it has told the Government that it is unwilling to provide unprofitable public services unless it receives a subsidy.

The company is also still negotiating the terms on which it will be able to interconnect with British Telecom's circuits. A satisfactory solution is essential to its commercial future, since it will have to rely

on BT's local network to reach many of its customers.

So far, Mercury has received investment commitments totalling £125m from its shareholders. Cable and Wireless and British Petroleum each own 40 per cent of the company. Barclays Merchant Bank owns 20 per cent, but is seeking a buyer for its stake.

The shareholders have grown increasingly cautious about committing further large funds until they can see a clear prospect of a commercial return. It is estimated a total investment of about £1bn would be required if Mercury were to offer a complete nationwide service.

Much of the investment to date has been to build a 1,100 km land network linking major cities in England. The network uses advanced optical fibre cables, which are being laid in ducts along British Rail tracks.

About 150 km have been laid so far, and the network is due to be completed by next spring. However, Mercury plans to start services between London and New York next August. It also wants to extend links to continental Europe but has yet to win agreement from any European government.

Mercury is also studying proposals for co-operation with Reuters, the international news agency and business information group.

Over 1m Britons to holiday in U.S.

By Arthur Sandles in Seattle

MORE THAN 1m Britons will holiday in the U.S. this year and spend \$510m there, according to the latest U.S. government estimates.

The U.S. tourist industry, now holding its major annual sales conference in Seattle, believes it has halted the decline in holiday-making by the British since the boom period of \$240 to the pound.

About 2m Americans are likely to holiday in Britain this year. But the U.S. industry is determined to try to correct the imbalance, which is mainly due to the present exchange rate of about \$1.39.

An official report indicates that the average overnight rate for U.S. hotel rooms is \$31.90, over £35. This is £10 more than the UK national average.

Tour operators are trying hard to overcome the price problem with price guarantees. American Express, for example, has this week pegged the price of hundreds of holidays to Florida if they are booked before the end of next month.

Better value defence emphasised

BETTER VALUE for money from Britain's £8bn defence equipment bill and a shift in resources from support services to the armed forces on the front line are the twin emphases of the annual Defence White Paper (policy document) published yesterday.

Mr Michael Heseltine, the Defence Secretary, backing up his major reorganisation of the Ministry of Defence (MOD) outlined measures which are already toughening terms for defence contractors.

However, the White Paper also details new policies which foreshadow the contracting-out of many of the armed services' support functions. This seems likely substantially to increase defence business opportunities for British companies.

Mr Heseltine yesterday called his reorganisation of the MOD "the greatest single overhaul of machinery for developing and co-ordinating defence policy for two decades."

The outline of the reform, first announced in March, is in the White Paper. Precise details will only be published in a separate White Paper in July, with the reforms effective from January 1 1985. The reorganisation is likely to result in a radical loss of power for the chiefs of the three armed services.

Yesterday's White Paper, a wide ranging review of Britain's defence activities, concentrates on two key areas designed to back up Mr Heseltine's reforms. It contains the full statement yet of the MOD's drive to increase competition in de-

fence business. It also details government policy designed to shift resources from the so-called "tail" of the defence forces to their "teeth," or front line activities.

Britain's defence budget for 1984-85 is £17bn, of which nearly £8bn or 48 per cent will be spent on weap-

contracts showed savings of over 30 per cent as a result, the White Paper says.

The major measures are:
● Prime contractors must introduce competition in their sub-contracts whenever possible.
● Companies will be invited to

ensure a continuing shift in the balance of the defence programme towards additional frontline capability.

The White Paper details pilot projects which are already underway or planned across a wide range of support activities. This suggests that, if the projects are successful, many support services will be contracted out to private enterprise in the future.

The pilot projects include:
● Warship refitting. A major study is underway which could result in the contracting out of refitting work normally done under MOD management at the Royal Dockyards. Meanwhile two ships - probably a frigate and a conventionally powered submarine - will be offered for competitive tender, with work to begin later this year.
● Management of non-warlike stores to be contracted out to two depots.
● Major servicing of Canberras and Hunters will be done by industry; deep servicing of the Nimrods will be opened up to competition as will major servicing of the Hawk aircraft.
● More than 30 per cent of army equipment repair is to be contracted out. REME workshops' business, currently worth an annual £76m, will put much work out to competitive tender.

● All air charter contracts which can be are now open to tender, while the army's movement of freight will be so opened next year.

Bridget Bloom, Defence Correspondent, looks at the Government's latest policy document on defence, which places greater emphasis on putting out more contracts for equipment to competitive tendering.

ons, mostly made by British companies. The defence budget has increased by nearly 20 per cent since 1979.

Although the White Paper does not examine the ramifications of the decision, announced last year, to abandon from next year the Nato target of a 3 per cent real increase a year in the defence budget, it does note that "the energies and livelihood of more than 700,000 people in Britain are engaged in the industrial activity associated with the defence effort." The MOD is the single largest customer of British industry.

Some 20 per cent by value of contracts totalling £8.8bn which were placed by the MOD in 1982-83 were awarded following competitive tendering. Measures to increase this percentage are being progressively introduced. Analysis of some recent

Alliance proposes bigger EEC budget

BY PETER RIDDELL, POLITICAL EDITOR

AN ENLARGED EEC budget, together with a co-ordinated programme for economic and industrial recovery, forms the centrepiece of the SDP/Liberal Alliance manifesto for the European Assembly elections on June 14.

The manifesto, entitled "Let's Get Europe Working Together," was launched yesterday at a series of press conferences throughout Britain. The Conservative and Labour Parties are expected to publish their manifestos early next week.

The emphasis in the Alliance document is unashamedly pro-European in favour of an expansion of the role of EEC institutions, including the parliament, and in favour of strengthened European co-operation for conventional defence.

In the introduction, Mr David Steel, the Liberal leader, and Dr David Owen, of the SDP, say that "we cannot evade the fact that our future lies in the European context. It is hopeless to try to fight in Brussels in a negative chauvinist spirit, obsessed with the past."

"Too many British political leaders have concealed their inability to provide imaginative direction to the Community behind a surly anti-Europeanism. We have no patience

with these attempts to play to the gallery of outdated nationalism. True leadership should make it clear that Europe has got to work better - and that Britain's vital interests will be best served if it does."

The manifesto plays down the significance of the problem of the EEC budget, which represents only a small part of the total economic picture of the effects on the UK of British membership. Over-concentration of spending on agriculture is as much a result of failure to establish other common policies as a consequence of the way the Common Agricultural Policy works.

In particular, the manifesto says: "A budget constrained by the current ceiling of revenue-raising will not allow sufficient headroom for the other expenditure necessary to achieve the other policy objectives which we advocate. We can fund the industrial, regional and social policies which Europe so badly needs only if we are prepared with our partners to find the money to pay for them."

The Alliance urges a reform of the budget via linking revenue-raising to the proportionate wealth of each member state

Film campaign seeks to boost audiences

BY RAYMOND SNOODY IN CANNES

THE BRITISH film industry is to launch a £3m campaign to attract more people to UK cinemas and increase the market for British films abroad.

The British Film Year, which will begin next April, was announced by Sir Richard Attenborough, the director of Gandhi, at the Cannes Film Festival.

The aim of the year, will be to attract at least 4 per cent more people to the cinema in the UK. This would increase revenues by more than £4m, with an estimated extra £3.5m generated by higher sales of pre-recorded cassettes. Last year attendances at British cinemas totalled 69m, compared with more than 1bn in 1948.

The emphasis will be on new films. Premieres will be held in many British cities and in the major capitals of the world as part of British film weeks.

The Government has promised nearly £500,000 to support the plan. The film industry has already pledged £500,000. The aim is to raise another £1m from film companies and a further £1m from sponsorship.

Sir Richard said yesterday that the success of films such as Chariots of Fire and Gandhi presented an opportunity to stop the declining trend of cinema audiences and get really worldwide distribution for British films.

Jaguar 'worth £250m'

BY KENNETH GOODING, MOTOR INDUSTRY CORRESPONDENT

JAGUAR, BL's luxury car subsidiary, is worth about £250m, according to an investor's guide produced by Professor Krish Bhaskar, head of accountancy and finance, and his team at the University of East Anglia.

It suggests that, if Jaguar continues to perform as well as it has in the past two or three years, the stock market value could rise to nearly £300m after the company is returned to the private sector later this year.

Three factors in particular, how-

ever, would drive down the share price:

● The departure of Mr John Egan, the chief executive.

● Anything which adversely influenced revenue in the U.S., Jaguar's biggest market.

● If the new saloon, code-named XJ40 and the replacement for Jaguar's best-selling XJ6, proved not to be a success.

"Jaguar: an investor's guide," £32 from University of East Anglia, Norwich NR4 7TL.

New terminal for North Sea gas

By Andrew Fisher

ASSOCIATED British Ports is to spend £1m on a new deepwater terminal at the Humber port of Immingham to handle gas from the North Sea.

The facility will be used by tankers carrying liquefied petroleum gas (LPG) from Flotta and Sullom Voe for both Calor Gas and Conoco.

The terminal will also be used for the export of LPG. Completion is scheduled for mid-1985.

Toshiba confirms factory plan

By Carla Rapoport

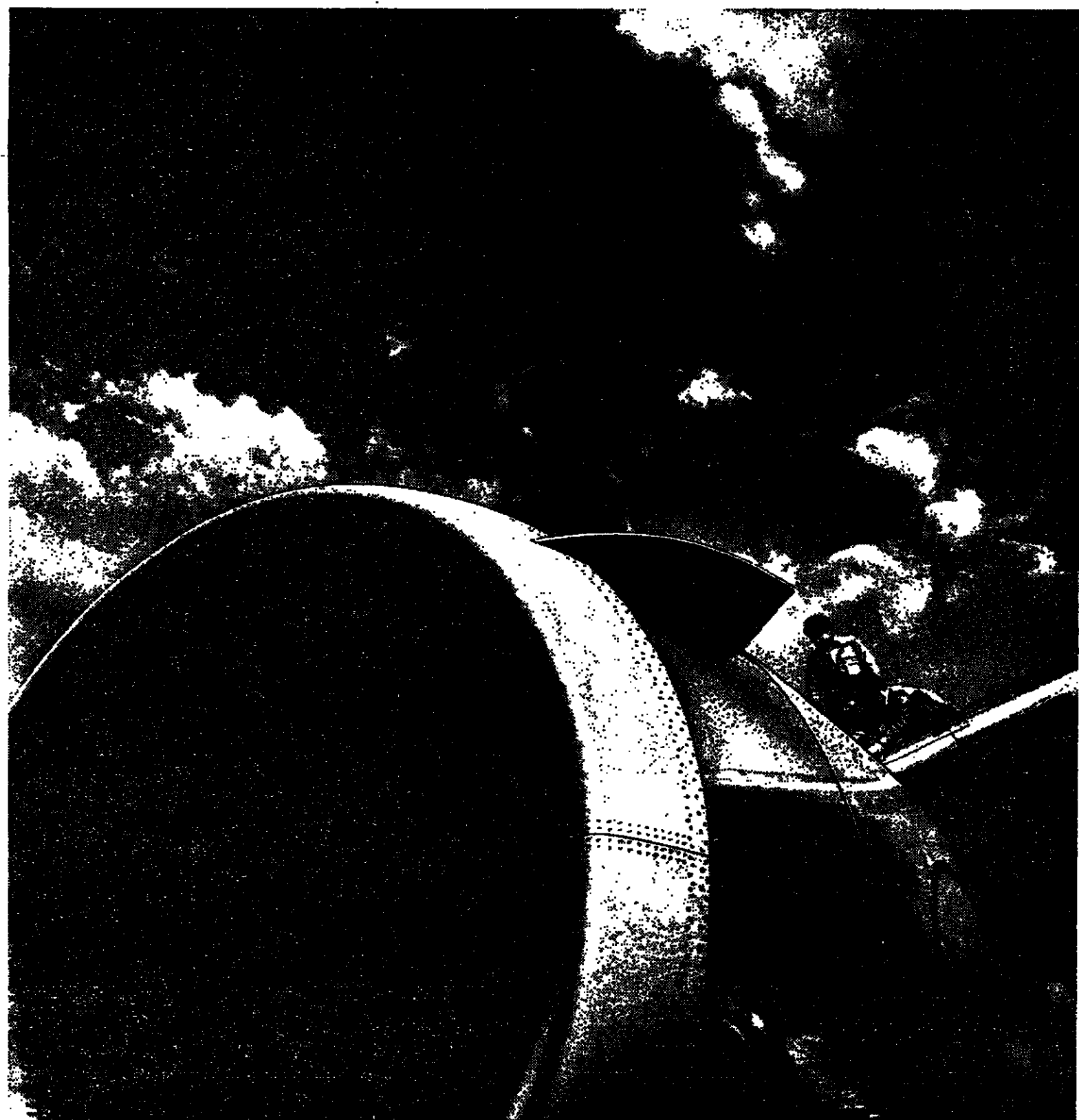
TOSHIBA, the Japanese electronics company, confirmed yesterday that it plans to open a microwave oven factory in Plymouth, south-west England.

Production will begin in July next year and will eventually create some 200 jobs. The total investment will amount to about £3.6m.

The new plant will be producing about 20,000 units a month when it is fully operational.

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THE MANAGEMENT PAGE: Small Business

The double life of Heather Kearsley

BY ELAINE WILLIAMS

LIVING the earthy life of self-sufficiency seems rather at odds with running a computer software company. But that is the double existence of Heather Kearsley, founder of Compsoft.

Until four years ago she lectured part-time in social psychology in order to provide enough income to support her horse, goats and chickens. Then she started selling a computer program written by her husband, Nick Hogan, "out of interest." Hogan also had a part-time job contracting his computer skills when necessary.

Her decision to start selling Hogan's program full-time came during one Easter break. She visited all the microcomputer dealers in the UK. In three weeks Kearsley came away with £3,000 worth of orders. To some one earning £2,000 a year for 16 hours lecturing a week this seemed like a fortune. Heather Kearsley says that her husband, a born pessimist, was convinced that the company would not succeed. Eighteen months later, however, he joined it as managing director.

Kearsley was not without her own doubts. For the first six months after setting up the company she could not sleep. "I went through an identity crisis. For the first time I had to be decisive and give other people orders," she says. Initially she operated from home. When people called and asked for a particular department "I would answer the phone with an accent and then pretend I was someone else just to make the company seem bigger," Kearsley says.

Then at a party she met a computer programmer and hired him. His task was to help improve the software and code the program so that it could run on other computer models.

Hogan's program was originally designed for Commodore PCs. It was a database program which allows users to store information in a logical



Heather Kearsley: the top five computer companies have all adapted Compsoft's products

manner. Now it can be run on many models. The top five computer companies in the world, including Xerox, Wang and Digital Equipment, have all adapted Compsoft's products.

The company's main product is called Delta and is also a database management system. In the two years that this program has been on the market it has been used for 2,000 to 3,000 different applications and sold to about 5,000 customers throughout Europe.

Some of the more unusual uses include keeping lists of greyhounds at a racetrack, organising police beat rotas and keeping track of North Sea support vessels. A local authority bought Delta to list all its manhole covers.

British forces used Delta to make lists of prisoners taken during the Falklands conflict. Ironically, before the war the Argentinian navy bought the program for managing its fleet.

Today the company has a turnover of £1.3m which compares with £50,000 for the first year's sales. Growth is more than 100 per cent a year. Employees have risen to 35, of which more than 50 per cent are women. Kearsley is keen to encourage other women. "I am not hidebound by convention," she comments.

The technical service department which helps sort out cus-

tomers' problems and provides advice on equipment is also dominated by women. Kearsley calls them her "samaritans of the switchboard."

One of the greatest mistakes she made during the early days of the company, she admits, is that "I was too cautious about spending money on marketing."

Her social psychology background had helped in selling. "I used to do behavioural experiments with rats and mice. This helped me deal with micro-computer dealers," she jokes.

Being an entrepreneur runs in the family. Kearsley's younger brother, Andrew, who has developed an improved laser which may have medical applications, set up Oxford Lasers.

Kearsley says that she has always had an entrepreneurial spirit. As a child she used to run pet shows and charged neighbours an entry fee. She asked the local vet to judge animals. Her parents banned the shows when they realised that Heather's animals always seemed to scoop special category prizes. She ensured that the categories were such that her pets came out on top.

What of the horses and goats now that she is busy selling Compsoft? "They're still there. I just have to get up earlier in the morning to feed them."

Why Europe needs local job creation

BRITAIN MAY have the highest number of unemployed of any country in Europe — but it can also boast a leading role in local initiatives to create new jobs.

Based on the evidence of several recently researched case studies, a report published by the Economist Intelligence Unit urges more local and regional authorities throughout Europe to encourage the expansion of existing, and creation of new, businesses.

"Unless the public sector recognises that the claims of local action are such that public funds should be provided as the mainstay of support, then local action will peter out in a few years, warns the report. This will require a willingness in most countries of Europe to acknowledge that such funds are more effectively spent in that way than in expensively persuading invisible investors that there is only one place in Europe worth investing in — the town or city doing the promotion."

The report considers the history of projects in the UK, the Netherlands and France, including UK enterprise agencies, British Steel Corporation (Industry), the job creation arm of the steel corporation, and the joint project between the Dutch electrical giant, Philips, and the private

British company, Job Creation, to alleviate the effects of a major closure in The Hague.

The Philips project "shows that a prime sponsor, private sector in this case but public sector in others... can make a real contribution to the community with which it is concerned." A bold commitment, moreover, induces others to join the scheme for, as the Report points out, an initially sceptical municipality, The Hague, has asked Job Creation to develop a second Enterprise Centre for small firms.

The study suggests that communities, local authorities and local employers may be surprised by the energy, talent and initiative lurking in even the most depressed areas. But while the cost of local initiatives can be small compared with other forms of expenditure, it is crucial that their objectives are clearly defined. New companies, for example, "should be helped to put other companies out of business by producing a product or service for which there is already sufficient local supply"; it is also essential that the right kind of people are recruited. "They must be able to feel a sense of identity with the anxieties and hopes of those who have taken the risk of setting up a business on their own, and at the same time be able to communicate effectively with officials, bankers and lawyers."

* EIU Special Report No. 165. * EIU Creating New Jobs in Europe; the role of local initiatives. Available from Spencer House, 27 St James's Place, London, SW1. Price £35.

Tim Dickson

In brief...

AT THE beginning of the year William Page began to preach what he practices, and vice versa, when he started up a publication called Small Firms' Outlook. Now in its fifth issue, the 10-issues-a-year magazine includes articles and information useful for the one-man band and those who have progressed further. Topics covered include the law on safety of employees and visitors; how to get the Post Office to pay your postage; how to advertise in your local newspaper or cinema; how to cut your telephone costs; and how to get market research on the cheap. A year's subscription costs £19.50 (including postage). Details from: Reach Tree Publishing, 10 Watford Close, Guildford, Surrey GU1 2EP.

A SPECIALIST handtool for bricklaying has won this year's

Opportunity Wales first prize of £2,500. Gary Lewis and Terry Huxley of Excalibur Handtools, based on the Merthyr Tydfil Industrial Park. Second prize in the competition, sponsored by the Wales International Management Centre and supported by the Design Council Wales and BTV Wales, went to Ceryn Evans, whose company, Solar Sounds, makes a computer-aided tool to teaching music. Lewis and Huxley's "Pol-master" is claimed to be the first tool made specifically for pointing brickwork.

THE Irish Republic's Industrial Development Authority has recently launched a set of 12 leaflets on Starting Your Own Business. They cover everything from planning, premises and keeping the books straight to exporting, being an employer and insurance for a small firm. IDA, 42-44 Lower Mount Street, Dublin 2.

Co-operatives

A role in regeneration?

BY JOHN HANDS

CO-OPERATIVES have flourished when existing social and economic systems have failed to supply basic human needs. They were born of a struggle to overcome deprivation and insecurity caused by the exploitation of workers following the industrial revolution. They spread during the depression in the U.S., helped resuscitate several European industries and housing programmes in the aftermath of the Second World War, and revived failing agricultural communities in Asia.

But has this unique system of member-owned and controlled enterprises anything to offer a modern economy that is in its worst recession since the war, and that is undergoing a technological revolution which many believe will prove as traumatic as the industrial revolution?

The authors of a book published today not only say yes; they suggest that co-operatives have a vital role to play in a strategy for economic regeneration.

Peter Cockerton and Anna Whyatt support this claim by pointing to the record growth in worker co-operatives in Europe over the past five years, with over half a million people now collectively owning and running their own businesses.

The greatest increase in numbers employed in co-operatives has taken place in the UK with a 27-fold increase since 1976, giving a present total of some 6,000 worker-owners.

It is not only the record levels of joblessness which have been responsible for this trend, according to Cockerton and Whyatt. "While the desire to create jobs in the face of high unemployment is a powerful incentive, the debates of the past 20 years concerning industrial and local democracy and the general demand for decentralisation have created a climate in which self-management has emerged as a basic requirement for growing numbers of people."

But their book, *The Workers Co-operative Handbook*, is not primarily polemical; it is a practical guide to setting up a workers' co-op. And one of its case studies illustrates both the pitfalls and the potentials of the new breed of co-operatives.

Computercraft was set up in 1979 by six people who had conventional programming jobs in the computer industry. The main aims of the group were

for the members to be able to control (and thereby enjoy) their own work, to undertake projects that use computers in a socially responsible manner, to offer advice on computerisation to community and other similar groups, and to demonstrate that a high technology co-op was a viable proposition.

The co-op started up very rapidly. That was probably its first mistake. Within four months of the initial meetings, it had registered, found offices and won its first contract. But, talking to two of its founder members, it is clear that the group had not fully thought through its precise objectives and methods. Lacked business experience, and was undercapitalised. According to Phil Cole: "We exploited ourselves for the first three years." There were also major differences of view as to what a computer co-op actually was.

The problems were eventually resolved when two of the founder-members left to set up a similar project in Australia. This coincided with the co-op winning several substantial contracts.

Longer-term

Computercraft is now an established software house specialising in consultancy, software development, training and support on microcomputers. Its clients include social agencies like the National Association of Citizens Advice Bureaux, the Commission for Racial Equality and the Child Poverty Action Group, plus commercial organisations.

Typically for a new, small business, the immediate pressures of work and clients' demands took priority over longer-term considerations. But, as a co-operative committed to "informed democracy" and consensus decision-making at weekly business meetings, this weakness was recognised. The co-op members therefore decided on some social/strategic planning weekends together.

As a result, the co-op now has an embryonic strategic plan which provides for a move into packaged software production and the acquisition of marketing and sales expertise.

Overall the members feel very positive about working as a co-operative. The problems they have faced are more than outweighed by the benefits of

working in an environment that they control, with people who share the same aims and where they are able to do the sort of work they want to do.

But it is clear that Computercraft learned the hard way, through trial and error. As another founder member, Richard Collings, put it: "If we had been a conventional business, we'd have gone bust." It was only a share commitment to the original aims which sustained them through the difficult times.

It is here that *The Workers Co-operative Handbook* could prove so valuable. Without pontificating, it sets out all the relevant information on what is needed to start and run a workers' co-operative; the legal, financing, business planning and sources of advice; and case studies of requirements; sources of advice; and case studies. Above all, it poses the questions that every aspiring co-operative should have asked and answered to its own satisfaction before embarking on a business enterprise.

The body which published this handbook, the Industrial Common Ownership Movement (ICOM), has been the major driving force behind the enormous growth of worker co-operatives in recent years. The figures for these co-operatives has been estimated at 5 per cent a year — a figure substantially less than the figures quoted by the Department of Industry for all new businesses. The amount of public investment has been estimated at £3m in 1983 (compared with £5.4m public investment in the private sector) and this generated approximately 2,000 new jobs. In crude terms £1,500 per job would seem a better investment than the £7,000 per annum cost of maintaining a person in unemployment.

Against this background, it is difficult to argue with Cockerton and Whyatt when they suggest that the worker co-operative principle "may not just be a social ideal. It could hold the key to a new type of economic revival."

The Workers Co-operative Handbook by Peter Cockerton and Anna Whyatt, ICOM Publications, obtainable from Corner House Bookshop, 14 Bedford Street, London WC2, price £3.75 inc p and p.

Business Opportunities

READERS ARE RECOMMENDED TO TAKE APPROPRIATE PROFESSIONAL ADVICE BEFORE ENTERING INTO COMMITMENTS

1	LANARKSHIRE	1	LOANS
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3	THE GARNOCK VALLEY	3	LOCAL KNOWLEDGE
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		19	SPECIALIST HELP
		20	Local knowledge combined with expertise at a national level. And it's free.

NOBODY ELSE GIVES YOUR BUSINESS THIS MANY OPPORTUNITIES

The Opportunity Areas

If you're starting up, expanding or relocating, talk to us first.

We are the Opportunity Areas. A unique combination of Enterprise Agencies in the regions and BSC Industry at the centre — which together have an unrivalled track record and a breadth of resources that will help your business on the way to success.

All we ask is that your business proposition is viable and that it will create new jobs in any one of eighteen areas.

If you're as serious as we are, fill in the coupon or call our Action Desk on: 01-686 0366 ext. 300 (or outside office hours 01-686 2311).

To: BSC Industry, NLA Tower, 12 Addiscombe Road, Croydon CR9 3JH.
I'd like my business to succeed. Give me the opportunities.

Name _____ Position _____

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FUNDS FOR GROWTH

WE WANT TO INVEST in companies aiming at high growth rates and high profits. We normally invest amounts between £200,000 and £750,000 but larger sums can be provided. We are backed by several major financial institutions.

Contact: John Parkin or Anne Higgins ENGLAND AND WELSH INVESTMENT PLC
Cayman House
1 St Vincent Ave
London EC3A 3BP
Telephone: 01-425 1212 or 01-425 7157

PAPER BAG MAKING MACHINERY

As a result of the closure of our business we are offering the following two Bag Making Machines available for sale:

BEASLEY FRENCH No. 2 BAG MAKING WITH 12 COLOUR PRINTER, 25in WEB

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Further details from: The Works Director, C. R. Packaging Ltd., 123 Westwood Road, Sutton, Surrey, SM1 4JQ Tel: 01-442 8216

FREEHOLD AGRICULTURAL INVESTMENT

HOLMES CHAPEL GRESHIRE

Let Farm comprising 255 acres or thereabouts Producing £10,000 pa CFAs invited
GANDY & SON
Chartered Surveyors
Wilmington Hill, Northwich, Cheshire - Tel: 0066 79144

Old Established EXPORT HOUSE

OVERSEAS MARKETS FOR YOUR PRODUCTS

Export House with established overseas sales people in domestic hardware and appliances. Industrial and commercial food processing plants and agricultural machinery, has routes for additional products. Our overseas contacts are seeking all types of good exportable products.

Manufacturers interested in expanding into export markets, or requiring export assistance or finance, please write in confidence to the Managing Director.

A. HURST & CO LTD
Arbushott House, Brooks Place, Haslemere, East Sussex TN11 9JG

NEW PRINTING/MEDIA COMPANY SEEKS CASH INJECTION

Excellent basis for in-group print facility computer typesetting/web-offset press/etc. High expertise in media and PR/advertising/electronic media. Convenient London & South. Write Box F4871, Financial Times 10 Cannon Street, EC4A 4BY

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A marketing organisation, located in Central London, developing its within its own manufacturing own branded range of products of high quality products. Any reasonable proposition considered. Please write Box F4872, Financial Times 10 Cannon Street, EC4A 4BY

MACHINE TOOL BUILDING CAPACITY REQUIRED

Established Machine Tool Company seeks additional capacity from sub-contractors preferably from within the machine tool industry. Estimated turnover could be around £500,000 pa. Long term arrangement is envisaged. Please submit details to: Box F4873, Financial Times 10 Cannon Street, EC4A 4BY

EXPORT MARKETING

Medium sized marketing company with associate offices in the Middle East and Africa seeks regional position with UK companies. Our position is fairly varied and we are therefore not restricted in our product lines. For further details please contact: Tel: 0285 47268/44210 Tlx: 437248 AGTA G

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Our Acquisitions and Mergers Department is looking for Partners interested in acquiring a participation in a major South-American Company, leader in the production of high quality cotton yarns for knitwear and sewing threads, a large part of which is exported to Europe.

This Company has been operating for more than 40 years within the Andean Pact Agreement which provides economic facilities and free access to Bolivia, Colombia, Ecuador, Peru and Venezuela markets.

This investment opportunity could be of interest to entities which:

- wish to collaborate with a successfully established group (of European origin) operating locally for more than a hundred years in diversified activities;
- are looking for international connections within the textile or allied sector and for a presence in the European and South American markets;
- wish to have, in addition to an industrial firm, the availability of a commercial company (belonging to the same Group) with a sale and distribution network already operating on and capable of covering the local market with other non-textile products.

If you are interested please contact Mr. Vito Gioia,

Price Waterhouse Associates
Corso d'Italia 39/B, 00198 Rome (Italy)
Tel.: 00396-8440151 - 855578 - Telex: 611526 PWCOR I

Price Waterhouse Associates

LONDON FUTURES BROKER Seeks link with International Banking Group

An established London futures broking and investment management firm, with its own commodity and financial futures floor seats, seeks a commercial link with a major international banking or financial services group to develop trade and investment/speculative business. An equity participation is possible.

Write Box F4836, Financial Times, 10 Cannon Street, London, EC4A 4BY

TRADING U.S. PUBLIC COMPANY SHELL WITH \$3 MILLION CASH

No liabilities. Audited by Ernst & Whinney, 1,000 shareholders. Interested in a merger with a private company with substantial earnings where present management will continue with incentives. Control may be available if your company is very profitable.

Contact Principal: Albert M. Zlotnick
Suite 816, G.S.B. Building, 1 Belmont Avenue
Bala Cynwyd, PA 19004, U.S.A.
Telephone: 215-667-8225

READERS ARE RECOMMENDED TO TAKE APPROPRIATE PROFESSIONAL ADVICE BEFORE ENTERING INTO COMMITMENTS

**Principals only please write to Box G9718
Financial Times, 10 Cannon Street, London EC4P 4BY**

Box G.97.24, Financial Times.
10, Cannon Street, London EC4P 4BY.

Businesses for Sale

STRUCTURAL STEEL FABRICATION AND ERECTION, METAL TREATMENT, BUILDING DESIGN AND CONSTRUCTION

Modern Engineers of Bristol (Holdings) PLC and Subsidiary Companies

Offers are invited for the trading assets and undertakings of the businesses comprising this long established group of companies.

There are 142 employees many with extensive experience and skill in the industries concerned.

Group turnover was approximately £9m in 1983.

Further details from The Joint Receivers Nick Lyle and Ipe Jacob, Reference 11/SS Fairfax House, Fulwood Place, London WC1V 6DW. Telephone: 01-405 8422. Telex: 28984.

Thornton Baker

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27% STAKE IN BERWICK SALMON FISHERIES PLC

FOUNDED IN 1856

Balance held by over 100 other shareholders — Stock Exchange

dealings under Section 163 (2)

— owns profitable Salmon

Fishing Rights of River Tweed

PRICE £80,000+

Being net asset value of holding

Offers to Peter C. K. Chin

BERWICKSHIRE & BORDER INVESTMENTS LTD

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Personal

CUTTYHUNK 45 "COPIHUE"

100 A1 Ketch. Maintained as new. Refitted to owner's requirements. April Lloyd's special survey. Star of any Marina. Owner building 54' Cuttyhunk. Full set of sails, all almost as new. Expensive, but absolute bargain.

For full details please contact:
Williams Boatyard, Penarth, Cardiff, Glamorgan.
Tel: Penryn (0226) 7215/7319

COMPANY NOTICES

THE COUNCIL OF EUROPE

REESTABLISHMENT FUND

NATIONAL REFUGEE AND

OVER-POPULATION IN EUROPE

Loan of £11,000,000—

9.4%, 1978-1984

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The Council of Europe has

decided to inform the

debtor that the amount

of the loan is £11,000,000

and that the interest

on the loan is £1,100,000

per annum. The Council

has also decided to

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CONTRACTS & TENDERS

SYRIAN ARAB REPUBLIC

Public Establishment of Electricity

Financial Directorate — Extern contract section

Extern Call for offers No. 1536

Following our advertisement of the call of Tender No. 1536 for the extension of Mehardeh thermal power station by the addition of 2 x 150 MW units which is mentioned in the daily official Bulletin No. 4887 dated 15/1/84. The closing date for presenting the offer is extended until Wednesday 30th May 1984.

Drawing your kind attention that this extension is the final and we could not extend the call of Tender once again.

THE GENERAL DIRECTOR OF PEE

ENG. R. IDRIS

Damascus 1984

Appointments

Vacancy of Chief Public Health Inspector

Dubai Municipality announces the vacancy of Chief Public Health Inspector with accordance of the following specifications and conditions:

Basic qualification and experience.

1. Applicant should have obtained a Degree or Diploma in Public Health

Inspection or Environment Health from a recognised Educational

Establishment in Europe or America.

2. Applicant should also have passed Diploma Examination in Meat and

other Foods Inspection, or its equivalent qualification.

3. Applicant should at least have experience not less than 10 years in

this field, but should not be more than 45 years old.

Salary and other privileges.

1. The selected candidate shall be given a monthly salary not less than

Dh. 6,000/- according to the qualifications and experience.

2. The selected candidate will be given a free furnished accommodation with

free water and electricity, in addition to means of transport.

Applications shall be received through registered mail addressed to Director

of Dubai Municipality not later than 15.6.84.

DIRECTOR DUBAI MUNICIPALITY

P.O. Box 67, Dubai, U.A.E.

Telex: DB 45688 BALDYA

Public 8456

C. ITOH & CO., LIMITED

To the Holders of the Bearer Depository Receipts

Public Notice of Resolutions of the Board of Directors

concerning the Issuance of Bonds with Warrants

TO: ALL SHAREHOLDERS

Please be advised that the issuance of bonds due 1989 with warrants to subscribe for common stock of the Company, the particulars of which are described hereunder, were duly approved at meetings of the Board of Directors held on April 25 and May 4, 1984 respectively.

C. ITOH & CO., LTD
68 Kitakyushu-ku 4-Chome
Higashi-Ku, Osaka
Isao Yokokura
President and Director

PARTICULARS OF THE BONDS DUE 1989 WITH WARRANTS TO SUBSCRIBE FOR COMMON STOCK OF THE COMPANY.

1. AGGREGATE AMOUNT OF ISSUE: U.S.\$50,000,000 and the sum equal to the total principal amount of replacement bonds to be issued in case of loss, theft or destruction of the bonds, subject to appropriate evidence and indemnity being obtained.

2. ISSUE PRICE: 100 per cent of the par value of the bonds.

3. INTEREST RATE: 7.50 per cent per annum of the par value of the bonds.

4. DATE FOR SUBSCRIPTION PAYMENT AND DATE OF ISSUANCE: May 22, 1984 (London time).

5. FINAL REDEMPTION DATE: May 22, 1989.

6. DETAILS OF THE WARRANTS

(1) TOTAL ISSUE PRICE OF SHARES PER WARRANT

The total issue price of shares that may be subscribed for upon the exercise of a warrant shall be 1,136,500 Yen (this amount being obtained by translating the par value of the bonds at the exchange rate of 227.50 Yen for US\$1.) per bond with par value of US\$5,000.

(2) ISSUE PRICE (WARRANT EXERCISE PRICE) OF SHARES ISSUED UPON THE EXERCISE OF A WARRANT

The initial warrant exercise price shall be 340 Yen per share. Except in certain cases, no fraction of a share will be issued upon the exercise of a warrant.

(3) ADJUSTMENT OF THE WARRANT EXERCISE PRICE

The initial warrant exercise price per share may be adjusted from time to time in accordance with the following formula in the event that after the issuance of the bonds the Company shall issue new shares of its common stock for a consideration less than their then current market price:

Number of shares to be issued x Current market price per share

Warrant exercise price after adjustment = Warrant exercise price before adjustment x Number of shares issued

Appropriate adjustments shall also be made in the event of stock dividends, the free distribution of shares, the issuance of any convertible bonds with a conversion price inferior to the then current market price or upon the occurrence of other specified events. However, unless permitted by law, the warrant exercise price per share shall not be lower than the par value per share of common stock of the Company.

(4) DESCRIPTION OF THE SHARES TO BE ISSUED UPON THE EXERCISE OF A WARRANT

Registered shares of common stock with par value of the Company (par value per share of 50 Yen).

7. WARRANT EXERCISE PERIOD

Warrants may be lodged to be exercised at any time on and after June 5, 1984 up to and including May 4, 1989 (local time); provided that the payment of the amount of the warrant exercise price may be made up to and including May 19, 1989 (Japan time).

Provided, further, that if the bonds become immediately due and repayable at any time prior to May 4, 1989 pursuant to the occurrence of any event of default, the warrants may be lodged to be exercised prior to the date when payment of the principal amount of the bonds is duly made, but shall become void thereafter.

8. ASSIGNMENT OF WARRANTS

Warrants may be transferred separately from the bonds.

9. PARTIAL EXERCISE OF WARRANTS

Partial exercise of a warrant is not permitted.

10. AMOUNT OF THE PORTION OF THE ISSUE PRICE OF THE SHARES TO BE ISSUED UPON EXERCISE OF WARRANTS WHICH WILL NOT BE TRANSFERRED TO THE CAPITAL:

The amount of the portion of the issue price of the shares to be issued upon exercise of warrants which will not be transferred to the capital shall be the amount of the issue price of the relevant shares to be issued deducted by the amount to be transferred to the capital. The amount to be transferred to the capital shall be the amount which is the issue price of such shares multiplied by 0.5. Any fraction less than one Yen resulting from the calculation shall be counted as a full Yen; provided that in no case shall the amount to be transferred to the capital be reduced below the par value of registered shares of common stock of the Company.

11. PLACE OF OFFERING

Overseas market (excluding the U.S.A.) but primarily in Europe.

12. OFFERING METHOD

Public offering by underwriting on a standby basis by the following managers:

THE NIKKO SECURITIES CO. (EUROPE) LTD.

ROBERT FLEMING AND CO. (LIMITED)

DAI-ICHI KANGYO INTERNATIONAL LIMITED

BANKERS TRUST INTERNATIONAL LIMITED

BANQUE PARIBAS

DAIWA EUROPE LIMITED

DEUTSCHE BANK AKTIENGESELLSCHAFT

HILL SAMUEL AND CO. LIMITED

KLEINWORT, BENSON LIMITED

LLOYD BANK INTERNATIONAL LIMITED

MANUFACTURERS HANOVER LIMITED

NOMURA INTERNATIONAL LIMITED

J. HENRY SCHRODER WAGG AND CO. LIMITED

SMITH BARNEY, HARRIS UPHAM AND CO. INCORPORATED

SUMITOMO FINANCE INTERNATIONAL

SWISS BANK CORPORATION INTERNATIONAL LIMITED

Businesses Wanted

A UK PUBLIC COMPANY

with diverse multinational interests

WISHES TO ACQUIRE A 100% HOLDING IN MANUFACTURERS OR DISTRIBUTORS OF SAFETY OR SECURITY PRODUCTS

Essential criteria are:

UK BASE

ESTABLISHED GROWTH PATTERN
HIGH ADDED VALUE (MANUFACTURERS)
MINIMUM TURNOVER £5 MILLION PA

Replies from potential vendors, which will be treated in the strictest confidence, should be sent to:

Industrial Division M.D., Box G968, Financial Times,
10 Cannon Street, London EC4A 3BY.

WANTED

IMPORT TRADING COMPANY

We are a well-established international group and wish to acquire a company handling consumer goods such as chemicals, sundries, householders, tableware, giftware and luggage. To interest us a company should have annual sales of over £1 million (preferably well over), be based in the South East and be involved with any or all of the above products. The right company would have importing, marketing and distribution facilities and be able to benefit from links with our international sourcing network. We wish to acquire control and could provide management, but would not disturb existing management if sound and capable of growth.

Write Box G9721, Financial Times,
10 Cannon Street, London EC4A 3BY

COMPANIES WANTED

Client companies and investors some by whom we are retained, wish to find and select suitable companies for:

- OUTRIGHT PURCHASE
- MAJORITY OR MINORITY EQUITY INVOLVEMENT
- INJECTION OF VENTURE CAPITAL

The interest is spread across a broad spectrum of industry with funds available from £25,000 to £25m.

Please contact us with initial proposals for immediate attention:

COLLINS-WILDE ASSOCIATES LTD.

Attn: Peter, Stockbridge, Herts - Tel: 0264 810410

WANTED

Well established private specialist casting company requires an Anodising/Painting business for metal applications. M.O.D. approved preferred but not essential. The buyer would require to operate on current customer base complemented by our own input. Minimum disturbance of present management and staff. Would consider acquiring a holding as an alternative.

Write Box G9719, Financial Times, 10 Cannon Street, London EC4A 3BY

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80% OF UNQUOTED PLC FOR SALE

Available with clean balance sheet, net assets £100. 3m 10p

shares issued, more than 500 shareholders. £400,000 tax losses

Write Box G9727, Financial Times,
10 Cannon Street, EC4A 3BY

COMPUTER STATIONERY

Wholesale Computer Supply operation, based in Hertfordshire, with

extensive experience in the supply of computer stationery, software and hardware. Established 1970. £400,000 p.a. turnover.

Blue Chip client list in City and Home Counties with extensive growth potential. Ideal for similar organisation or as selling base for entering market. Excellent profit potential. Presently incompatible with holding group interests.

Principals only. Write Box G9735, Financial Times,
10 Cannon Street, London EC4A 3BY

SHELL FOR SALE

Substantial equity interest (and Board control) of small listed company for sale. Company is profitable with surplus cash

balances in excess of £2m. Principals only reply to: Box G9735, Financial Times,
10 Cannon Street, EC4A 3BY

BUSINESS FOR SALE

Yorkshire Fitted Bedroom Furniture Company with excellent credentials.

Reasonable offer in excess of £1m. will show 30% return (owner wishes early retirement).

Write Box G9727, Financial Times,
10 Cannon Street, EC4A 3BY

THE ARTS

Gardner Centre, University of Sussex/William Packer

Sir Roland Penrose and Lee Miller remembered

Sir Roland Penrose, who died at Easter at the age of 83, occupied a peculiar, largely self-created position in the British art world: Grand Old Man certainly—though until his last illness it was hard to believe he was as old as all that—but in particular, prime statesman of modern art in this country, that is to say the international art of our time, ambassador abroad and champion at home of all that was most engaged, advanced, stimulating and controversial.

He came of an artistic background, though one of a most conventional kind, his father a successful Edwardian academic painter whose work was high in moral tone and Quaker principle. From the start he entertained artistic ambitions of his own, albeit so nebulous and unresolved at first as to send him up at Cambridge in his early twenties, still casting around for a true direction. But there, through his acquaintance with Maynard Keynes, he came upon the Bloomsburys with their then radical ideas on life and art, met Fry and Bell, and saw for the first time the work of Cézanne, Picasso, Matisse. Then indeed was his course set, which, with all its vagaries and sudden deflections, he was to follow with such energy and conviction for the rest of his life. Off he went to Paris to study the life of the painter and become an artist, enjoying his father's mild disapproval and tacit support; and so it was that at a time when most of his contemporaries, and certainly the most talented of them, were still constrained by English post-war insularity, Roland Penrose found himself at the heart of affairs and soon the intimate of the protagonists of modernism.

He always thought of himself as an artist before all else, and as a surrealist in particular; for surrealism claimed him in its principles and practice from almost the first time in Paris, when the younger movement was establishing itself as quite distinct from the radical anarchism of Dada while yet exploiting the opportunities it afforded, and also the technical devices that came out of

cubism and constructivism. Collage, that visual shorthand of modern art, was his natural métier, often the working study for his paintings but more and more fully resolved in its own terms, an expressive end in itself. The serial, repetitive image, a postcard perhaps or magazine photograph repeated as it were an emphatic visual mantra until its literal reading is subsumed in a broader, more general organic image, became something of a personal trademark in his work even in the 30s; and these collages of the last year or two (the very last series of all made just this spring), now on show in a commemorative exhibition at the Gardner Centre Gallery of the University of Sussex (until May 31), are in just this way as characteristic as ever.

But it was never his art itself which made him so special to us and so important, so much as the fact of his being an artist. Sharing directly in the artist's sensibility, which is a great privilege, cultivating a vision of his own, and enjoying an extraordinarily wide and well-placed friendship with his great contemporaries, Penrose almost more than anyone else in his time was in a position to know, with the greatest acuity, just what was going on. Modest but serious in his own talent, he was all the more interested and generous at large—which is not always the case with those of greater gifts: and it was by the sheer range of that judicious sympathy, expressed not only in his writings but in direct action, that he was able to make his own peculiar and lasting contribution to our national cultural life.

In the days before arts councils and the assumption of state patronage and intervention, days of a comatose and parochial national collection at the Tate and a public even more hostile and ignorant of modern art than it is today, it was no small thing to try to bring out and celebrate the very best that was being done. Penrose was one of the prime movers in the organisation of the International Surrealist Exhibition in London in 1936, which now seems more and more brave

and extraordinary an enterprise the more we consider it; and he was a leader of the Surrealist Group that came out of it. Two years later, through his long-standing friendship with Picasso, he was instrumental in bringing 'Guernica', with all its preliminary sating and study material, to London; and in that time he had established his own gallery, The London Gallery in Cork Street, that had become at once a focus for avant garde activity here.

And after the War, a time when an official exhibition at the V & A of the wartime work of Picasso and Matisse could still be construed by many as something of an insult to the British public, he again set about stimulating and organising the activities of his peers, provoking discussion, stirring up creative controversy, all for the sake of Art. The Institute of Contemporary Art, of which he was co-founder in 1947 and its first director, became the natural focus for this renewed activity, and though it is a very different beast today, remains, as it should be, his memorial.

Perhaps, though, it is rather in the memory that the ICA of his achievement really remains, the memory of those cramped and hectic upper rooms in Dover Street that were for nearly 20 years its headquarters, the scene of exhibition, discussion, endless improvisation. For Roland Penrose really believed that all Art is in essence one, and that all artists of whatever discipline should be thrown together, to feed off their differences quite as much as their agreement. He believed above all that the visual and plastic artist was peculiarly well-placed to be the agent of such intercourse, so naturally sympathetic as he should be to all the other civilised arts. He was a true enthusiast and his enthusiasms were persuasive and infectious. But the ICA is no longer that sort of club, and no longer central to anyone's practice or creative interest, excellent though so much of its work still is.

In 1947 he had married Lee Miller, an extremely gifted photographer and a great beauty, whom he had known



Sir Roland Penrose in his studio at Farley Farm

before the War as an habitué of the Parisian surrealist world. She, who died in 1977, shares this small show at the Gardner Centre with her husband, beautifully represented by a choice group of her work in the fifties, by which time they had moved from London to make their home at Farley Farm on the Sussex Downs. Several aspects of her work are covered in portraits and conversation pieces composed of their friends and colleagues who had come to

stay—Picasso, Moore, Ewald, Ernst, Sonia Orwell, or just Bill White, the gardener, with his grandson assistant; and there are the Sussex views and landscapes around the farm; and the professional fashion shots that use the farm as a natural, unforced yet wonderfully elegant location. Lee Miller in Sussex is perhaps no more than a delicate and arbitrary aperitif for a proper, somewhat overdue study of her life's work, but it is a delightful treat nonetheless.

The artistic awakening of Argentina

Slowly but surely Buenos Aires is recovering its status as the undisputed cultural capital of South America. The lifting of censorship; funds made available by the Culture Ministry; and the demise of the death squad as the minion of public morality have followed the return of civilian government under Sr Raúl Alfonsín. As a result the local arts scene is now a busy hive of talent, imagination, and experiment.

The city is still lacking good art galleries; the National Ballet Company verges on the amateur, and "fringe" still gets inadequate publicity in the local press. Nevertheless local theatre, in volume and quality, compares favourably with that of almost any large European or American city with the exception of New York and London. "Forteno" culture moreover seems to me to have that extra spark which accompanies profound political change. Actors, actresses, who until a few months ago were on the military's banned "black list," have emerged in the spirit of those who contemplate the morning sun after a night filled with nightmares. There is a special energy about them.

The emerging Mecca of the "new culture" is the Centro y Teatro General San Martín. This

huge and modern building just off the Calle Corrientes, the city's Broadway, is a Kennedy Centre and South Bank rolled into one. A generous outpouring of new shows are being played out in 11 auditoria competing for the attention of practically every taste and generation. On a good day the San Martín presents the visitor with a magical mystery tour from a live debate on Buddhism and Zen to a popular adult circus. In between there is a wealth of experimental theatre including a hard-hitting political play called Knepp.

The play, written by the

Enrique Liporace), a sinister "scientist" who barges into Brando's room in the opening scene claiming to be conducting an investigation into the psychological reactions of victims of the state.

The plot twists and turns in on itself like a Borges's short story. Only at the end does it resolve itself in tragedy when Knepp reveals himself as a Government agent bent on forcing his latest victims to accept the "disappearance" of her husband as irrevocable and justified. That one is never quite sure where symbols end and real people begin makes Knepp all the more disconcert-

I Am) stands in a league on its own.

"I've lived better times, had times... I've watched winters pass, seen dictators die... only God knows what I've been through... and yet here I am," sings Guevara, interrupting a rumbling monologue on her real and imagined history—"You don't know how much trouble I've had convincing people I'm no relation to Che," she jokes in one of countless asides. The autobiography is no exaggeration. In 1975 Guevara took a premature final curtain call, a bomb exploded in the hall of the theatre, killing two people and injuring several

rock and tango in a flight of contemporary musical diversity worthy of the best of Lloyd Webber.

There are moments when Guevara moves like Minelli, sounds like Piaf, but she never quite gives the impression of being a simple hybrid. Her originality is to be found in her physique and repertoire, both of which challenge the sensitivity of a local audience moulded for too many years on orthodoxy and stereotype.

From the moment that the theatre is plunged into darkness and a solitary icy spotlight follows Guevara's strutting long legs on to the stage, to the final encore when a painfully ironic "Don't Cry For Me Argentina" is delivered in Evita's own language, the show carries itself off with the self-assurance of a confirmed Broadway hit.

The moments deserve special mention in that between them they demonstrate Guevara's versatility as actress and singer. The first is when she walks across the stage in total silence, turns on an old-fashioned gramophone and sings in perfect harmony to a recording of Argentina's most famous pre-war tango, Carlos Gardel. The second is when she moves from stage and like a statue delivers the Hymn to Freedom written by Gianfranco Paggiaro. Guevara distinguishes herself in summarising the broken dreams and suffering which has made Argentina what it is.

Others. Nacha fled the country and for nine years of exile roamed the world. She has managed to build up a reputation from Madrid to New York (where she was commended with an Entertainment of the Year Award for a performance at the Kennedy Centre), absorbing musical influences and tempering the bitterness she felt towards her own country.

Guevara has made a defiant and triumphant comeback with a breathtaking show which combines cabaret, music hall, jazz, and tango in a flight of contemporary musical diversity worthy of the best of Lloyd Webber. There are moments when Guevara moves like Minelli, sounds like Piaf, but she never quite gives the impression of being a simple hybrid. Her originality is to be found in her physique and repertoire, both of which challenge the sensitivity of a local audience moulded for too many years on orthodoxy and stereotype. From the moment that the theatre is plunged into darkness and a solitary icy spotlight follows Guevara's strutting long legs on to the stage, to the final encore when a painfully ironic "Don't Cry For Me Argentina" is delivered in Evita's own language, the show carries itself off with the self-assurance of a confirmed Broadway hit. The moments deserve special mention in that between them they demonstrate Guevara's versatility as actress and singer. The first is when she walks across the stage in total silence, turns on an old-fashioned gramophone and sings in perfect harmony to a recording of Argentina's most famous pre-war tango, Carlos Gardel. The second is when she moves from stage and like a statue delivers the Hymn to Freedom written by Gianfranco Paggiaro. Guevara distinguishes herself in summarising the broken dreams and suffering which has made Argentina what it is.

Monte Carlo Philharmonic/Festival Hall

David Murray

Under their music director Lawrence Foster, the Monte Carlo orchestra called at the South Bank on Sunday with an all-French programme. Their opening Bizet—the very early Symphony in C—was a little stiff, missing the insouciant air that chiefly endears the Symphony to listeners; there was a good, plangent oboe, but also wiry strings without bounce. Thereafter everything went far better. It is a faithful, responsive orchestra, without any spectacular components, but apt for displaying Foster's idiomatic command of the French repertoire.

With their Bizet duly despatched, they were joined by Tamas Vasary for Ravel's two-hand Piano Concerto. I have rarely heard Vasary in such a rewarding form, clean-fingered and alertly sympathetic; a stern purist might have thought he began the Adagio a notch too slow and etched the tune too

forcefully—but his calculated waywardness struck me as wholly successful, and he turned the ornamented blues-tune in the Allegretto immaculately. Foster's tact and elegance matched his soloists, and the first-deck woodwinds shone; if only the Monte Carlo first trumpet were of the same calibre! But he didn't spoil what was, all in all, a captivating performance. (The harp cadenza makes a better effect without the double-speed glissandi that gilded the lily, though.)

Ravel's suite *Ma Mère l'Oye* was beautifully treated: impeccable tempi, no indulgent swoops, limpid (if slightly reticent) winds. The Monte Carlo leader went momentarily adrift far above the stage in "Les églantines de la Belle de la Bête"—in which the feelings of a tender dialogue were captured uncommonly well—but made amends with his "Jardin féerique" solo, breath-

ing delicate passion. That was one of many passages to which Foster brought a sensitive ear, achieving magical textures; the Oriental glitter of "L'air des neiges" was more subtly balanced than in any routinely efficient performance.

The Philharmonic concluded with the sumptuous second suite from Roussel's *Bacchus et Ariane* ballet, one of the sturdiest offshoots of the Franco-Russian musical *entente*. The colours glowed, and the dance-rhythms were kept properly to the fore. The long, sectional Finale changes metre dangerously often, and conductors are liable to drop a stitch here and there; Foster didn't, and preserved an unbroken impetus straight through to the last exuberant blaze. The orchestra can pride itself on a successful visit—and here at home, we ought to hear Foster more often in French music. He is a scrupulous stylist.

Mitsuko Uchida/Radio 3

Andrew Clements

Miss Uchida's BBC lunchtime recital from St John's, Smith Square, yesterday paired the two last Schumanns, the three Pieces op. 11 with the G major piano sonata. In terms of duration the Three Pieces formed only a brief prelude to the sonata, but Miss Uchida's playing of the latter was a study in miniaturisation, suggesting instead (and quite correctly) larger scale structures that had been stripped down and compressed without in any way diminishing their expressive weight or the size of their

climaxes. If she linked them more consciously towards the end, some miniatures they sometimes prefigure, it was not by superimposing any romantic gloss or richness—sonorities were consistently crisply defined, changes of texture acutely rendered.

The Schubert sonata was played with its first movement repeat observed, and further extended by Miss Uchida's choice of a leisurely tempo for the opening, not as slow as some (notably Richter) but

below the norm. She almost sustained it; the spell of concentration faltered towards the end of the exposition on both occasions, when the most beautifully sustained tone and phrasing could not revive it. The slow movement, however, brought no further insights, indeed appeared strangely pale after the exaltation of its predecessor. One could forgive very much, though, for the ravishing trio, and also for the finale, floated to extinction with charming delicacy and tact.

Louisiana State Museum/Frank Lipsius

Louis XIV: The Sun King

As the main off-site attraction of the New Orleans World's Fair, which opened this month, the exhibit of 240 paintings, documents and objects depicting the life of Louis XIV makes him the honoured guest of the state named after him. Organised by the Louisiana State Museum, *The Sun King: Louis XIV and the Age of Absolutism* is entirely of pieces borrowed from France with the purpose of reviving interest in America's French roots.

A number of pieces, like the Apotheosis of Louis XIV, are the work of Louis XIV himself, painted, even in his time, for \$7,000, had never been lent before, while the show also dates on the Sun King's most characteristic symbols, like the fleur-de-lis, the world's oldest portrait of Louis at age 63, resplendent in ermine and high heels, and a 20-foot Gobelin tapestry depicting Louis choosing objects from Gobelin's own atelier.

A historical museum is more likely to produce a show meant for the National Portrait Gallery, say, than the National Gallery. This one has the advantage of concentrating on a man steeped in the arts. The centralisation of power in the court of Versailles encouraged the King's patronage of the arts as well as the intrigues with which he surrounded himself.

The arts in Louis's court covered architecture and landscape, along with painting, sculpture and tapestry. All have their place in the show, with splendid original drawings of the layouts of Versailles and its gardens. Among the rarest objects on display are ornate liturgical silver pieces which accompanied the melting of 55,000 pounds of silver and gold in

Louis's later years when foreign wars depleted the nobles, as well as the king's treasury.

The last of the dozen galleries shows Louis's impact on America. A permission granted to La Salle to explore the western area of "New France" from its Canadian origins down the Mississippi ultimately resulted in the founding of New Orleans in 1718, three years after Louis XIV's death. As with the Spanish, French interest in the new world was strongly motivated by the desire to convert natives while rooting for a land rich in minerals and precious metals. The search turned up exotics like buffalo,

as primitively drawn on one map of the new world's treasures, and alligators, which inspired European imaginations to make them part of the earliest symbols of America.

In taking their historical mission seriously, the show's curators were not shy to include written documents that lack the visual flair of the king's artists but arouse a historian's excitement at seeing the original signatures on France's copy of the Treaty of Utrecht. One written document in an artist's hand is a letter from the Ottoman sultan in a gracious Arabic script sprinkled in gold powder, with which the document was dried.



Statue of Louis XIV by Jean Gobert the Younger

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ENERGY REVIEW
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Arts Guide

Music/Monday. Opera and Ballet/Tuesday. Theatre/Wednesday. Exhibitions/Thursday. A selective guide to all the Arts appears each Friday.

May 11-17

Opera and Ballet

NEW YORK

American Ballet Theatre (Metropolitan Opera House): Ends June 16.
New York City Ballet (New York State Theatre): 37 repertory works, including 24 by George Balanchine and 10 by Jerome Robbins, comprise the spring season, featuring this week a new premiere by Peter Martins. Ends June 16. Lincoln Center (670 5570).

The New Moon (Light Opera of Manhattan): Sigmund Romberg's tale of French Louisiana in the 17th Century includes the songs *Wanting You* and *Love Come Back To Me*. Ends May 27. 334 E 74th (661 2286).

PARIS

Roland Petit and the Ballet National de Marseille at the TNP-Châtelet (info: 2330000, bookings: 261 1983).
Traditional Music from India (6.30 pm) and Bejart influenced Gyor Bal from Budapest (8.30 pm). Theatre de la Ville (274 2277).

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The rising cost of defence

THE CHIEF emphasis, and the chief interest, of this year's Defence Estimates lies in its account of the efforts which have been undertaken, or are planned, for greater cost-effectiveness in defence expenditure. This is a very welcome focus of attention and it should be pursued with unremitting determination. But it is safe to say that the campaign to pack a more powerful punch for every pound of the taxpayer's contribution will produce the fullest results only if it is pushed forward in co-operation with Britain's Nato partners, especially with those in Europe.

There are many reasons for pursuing more cost-effective defence, even if it means treading on some highly-polished shoes. Britain spends more on defence, both in absolute terms and per head of population, than any other European member of Nato. It even spends substantially more than West Germany, despite a much lower national income. This major defence effort may be entirely appropriate in terms of the need to provide an adequate contribution to the security of Western Europe. But the diversion of very large amounts of resources, either from more socially useful or from more economically productive activities, cannot be justified unless it is a cause of useful satisfaction.

Germany and Japan have traditionally spent much less on defence than Britain and the U.S.; they have also enjoyed much higher growth rates. Even if there is no provable correlation between the two facts, it is incumbent on the high-spenders in the British Defence Ministry to demonstrate to taxpayers that defence procurement is conducted on the most business-like lines.

Competition

This imperative is the more pressing because cost inflation in the procurement of defence equipment has proved substantially higher than the inflation rate in the rest of the economy. This excess inflation may have been due in part to inefficiency in procurement practices, in part to bureaucratic rivalry between the services, in part to "gold-plating" in collusion between weapons designers and service chiefs; but in part it is due to the ever-escalating costs which come from the need to develop increasingly sophisticated weapons systems.

The centralisation of policy-making in a combined-services Defence Staff, together with the devolution of decision-making

and accountability and the creation of an Office of Management and Budget to achieve stronger monitoring of financial and management systems—these all seem sensible steps in the right direction.

Just as important will be an extension of the principle of competition to the development and procurement procedures. Analysis of some recent contracts showed, according to the Ministry, that the introduction of competition produced average savings of more than 30 per cent. If these kinds of savings can be generalised through the extension of competitive principles, the cost-effectiveness of the procurement side of the defence budget, of which it represents 46 per cent, should be very substantially improved. Nevertheless, the benefits of competitive procurement may be exhausted unless they can be combined with longer production runs, and this can only be achieved in collaboration with Britain's Nato partners, beginning with our European neighbours.

There are major difficulties in the way of transnational collaboration: geography may impose different requirements, or at least different perceptions; bureaucratic conflicts are multiplied by national rivalries; each government is under a statutory pressure to preserve national defence industries by buying nationally. The cost escalation in the price of the Tornado aircraft is sometimes cited as an awful warning of the disadvantages of collaboration.

Yet the harsh fact, which is slowly beginning to sink in, is that there are even greater difficulties in the way of not co-operating transnationally: the costs of hi-tech weaponry are becoming such that, in the medium-term, European countries will have only two options—to collaborate, or to become even more dependent on the U.S.

The Defence Estimates speak warmly of those steps which have already been taken in individual collaborative projects with other European countries. What is required is a more coherent drive to coordinate procurement requirements throughout Nato Europe. A start has been made with the list of emerging technology weapons drawn up recently by the Independent European Programme Group in Nato; it needs to be given further impetus both at this year's meeting of the European Group in Nato, and as an integral part of the reactivation of Western European union.

The politics of Wall Street

MUCH has been learned in Britain since Mr Denis Healey's celebrated complaint that the economy appeared to be run by the young men who write brokers' circulars.

In the U.S., however, messages from the financial markets have a great deal further to travel before they reach the seat of government, and there is little sign even now that anyone in Washington reads brokers' circulars.

Last week, as a consequence, both the White House and the Secretary of the Treasury broke what has long been regarded as one of the fundamental rules of market politics—that any arguments between the government and the monetary authorities must be kept strictly private. This was no help at all to the embattled bond market, and, despite yesterday's soothing remarks from President Reagan, its recovery will not be assisted either by reports that Mr Paul Craig Roberts, the high priest of deficit finance, is still on the list of possibles to head the Council of Economic Advisors.

Other debates, too, suggested that Washington and downtown New York are worlds apart. Thus, for example, the U.S. Treasury sticks largely to a sternly disciplinary line on overseas dollar debts (unless a crisis forces a hasty rescue, as over Argentina and more recently Peru). Wall Street longs for a milder and less crisis-prone approach. In Congress, the U.S. Treasury is actively supporting the latest proposal to abolish withholding tax on U.S. bonds, in the hope of attracting foreign investors to help finance the federal deficit. Wall Street traders are well aware that foreign buying of U.S. securities of all kinds has slowed to a trickle this year, and wants to hear of new ways to reduce the deficit, not new ways to finance it.

The result of these and other worries has been to produce in Wall Street what is a new experience in U.S. markets—a familiar problem in London—

a buyers' strike in the bond market. This is actually potentially more dangerous in New York than in London, for it threatens the survival of some investment houses, whose collapse would not only shake confidence but lead to distress selling of large bond portfolios.

Mr Nigel Lawson, the Chancellor of the Exchequer, might then profitably use any idle minutes which arise during the seven-power economic summit next month in telling Mr Regan of British experience in addressing problems of this kind. Some British techniques are clearly only for long-term consideration, notably the abolition of tax allowances for consumer debt interest.

This tax reform, which has helped make it possible to cut basic rates of tax in this country, is strongly supported by American central bankers, and also has a constituency among the U.S. proponents of a flat rate tax system—mainly on the right wing of the President's supporters. This reduces the level of interest rates required to achieve any desired degree of restraint.

Less volatile

Some quicker action would, however, be possible in financing methods. British efforts to diversify the securities offered by the public sector have, after one or two false starts, produced a much less volatile market. Privatisation and indexed bonds, the foul-weather friend, enable funding to be maintained in bear markets. Buyers' strikes are now minor affairs.

It might help even if the Administration showed some willingness simply to discuss such questions, for it would at least prove that the market's worries are taken seriously. What is not only undesirable but potentially dangerous is any prolongation of the present mutual distrust. Surely the former head of the world's best securities firm can do better.

It is the most ambitious—and potentially risky—programme of its kind in Western Europe: President Francois Mitterrand has just given the go-ahead for recabling of France with optical fibres, paving the way for the introduction of a nationwide cable television service and the development of a new generation of telecommunications services.

Between Ffr 45bn (£4.1bn) and Ffr 60bn are expected to be spent between now and the end of the century on the scheme, which is designed to help France catch up with North America and other Western countries in cable television and become a world leader in fibre optics technology.

However, France is approaching cable television in a radically different way from other countries in Europe and North America, which have either proceeded continuously with state-backing or allowed private finance to develop networks under franchising systems (see panel).

In classic French style, President Mitterrand has adopted a centralised, interventionist approach. This could succeed dramatically but there are also fears that it could turn the cable venture—like previous, costly attempts to create a national computer industry—into a high-tech white elephant.

The French system will be heavily financed by the Direction Generale des Telecommunications (DGT), the telecommunications arm of the French post and telephone authority (PTT). In return, the DGT will have overall control and responsibility for the wiring and will also own the cable networks, though these will be operated by "mixed economy" joint ventures bringing together public and private interests.

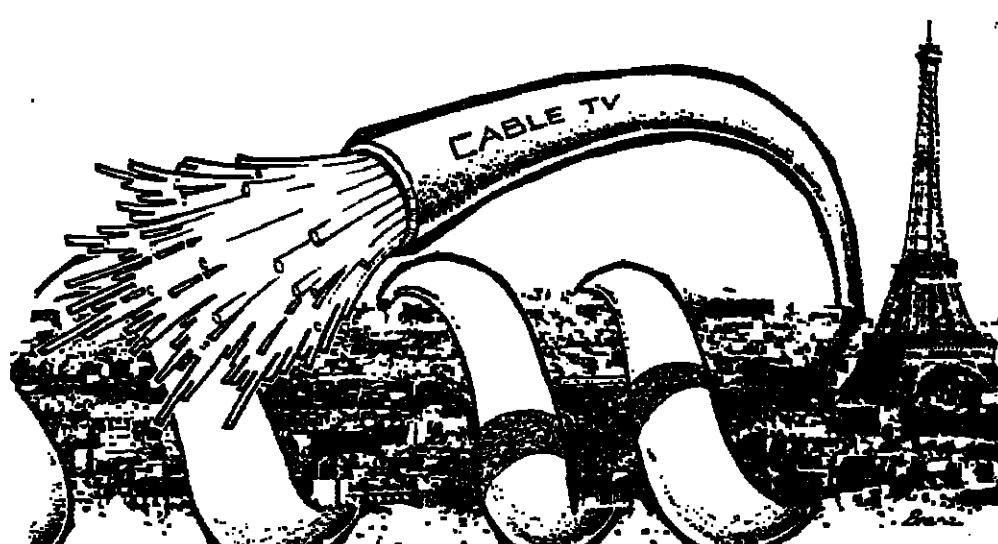
The cable system will follow the introduction by next autumn of the country's first over-the-air pay television channel, called Canal Plus. Direct broadcast satellites will follow in 1986, after the launch, at the end of next year, of the French TDF-1 television satellite.

The cable plan has already provoked a bitter dispute between rival French political and industrial factions. The knives have been out ever since President Mitterrand took the landmark decision in July 1982 to lift the French state monopoly on broadcasting and outlined his plans to develop new communications technologies and mass media. The satellite lobby has fought the cable promoters. The pay television and French motion picture factions (extremely powerful in France) not to mention the national television networks, viewed the coming of cable with undisguised distaste. Socialist and Communist politicians voiced their anxieties that cable networks, if controlled by strong private interests and right-wing local authorities like Paris, could become dangerous political tools in the hands of the opposition.

But the toughest lobbying undoubtedly came from the DGT, which marks it clear it would never tolerate the loss of its telecommunications monopoly, even though President Mitterrand had lifted the broadcasting monopoly. The DGT watched with alarm large and influential private water distribution companies like the Generale des Eaux teaming up with important local authorities to study the construction of cable networks.



President Mitterrand: gave the go-ahead



CABLE TELEVISION

Why France is taking such a bold gamble

By Paul Betts in Paris

The DGT backs its interventionist approach with persuasive arguments, on paper at least. It says cable can only become economically viable if the most advanced optical fibre technology (in the jargon, the optical fibre switched-star network) is used instead of the cheaper coaxial copper wire tree-and-branch networks used in the U.S.

The DGT points out that a great shake-out has already started in the U.S. where many franchise holders are backing away from their earlier ambitious cable projects.

Both the DGT and M. Louis Mexandeau, the French PTT minister, believe that by opting for optical fibres now on a nationwide scale, France has good chances of becoming an international leader in the field. French telecom officials like to compare the optical fibre choice for cable with the country's decision in the early 1970s to develop digital telephone switching technology at a time when many other countries

were still working on analog switch systems. France today is a world leader in digital public telephone switches and new telecommunications hardware ranging from electronic telephone directories to other new video telephone and data transmission services.

But these grand designs could easily turn into a pipe dream. The first, and perhaps biggest, constraint on the plan is finance. By safeguarding its telecommunications monopoly, the DGT will have to foot the lion's share of the optical fibre cabling bill. Until recently, this would not have seemed a daunting obstacle. The DGT has traditionally been one of the cash cows of the French public sector. But for the first time since separate accounts for telecommunications started being kept in France 25 years ago, the DGT made a net loss of Ffr 500m last year compared with earnings of Ffr 2.7bn the year before.

This deficit reflects the heavy provisions against foreign

currency losses which the DGT had to make to cover its large foreign debts. But it was also the result of the French Government's increasing reliance on the profitable state telecom business.

Among the new tasks that have befallen the DGT is the financing of the troubled nationalised Bull computer group. The DGT is unlikely to get much help from the government to raise its telephone rates high enough to finance its new commitments as well as its traditional ones. Indeed, the government, committed to a tough economic austerity anti-inflationary programme, may try to tap the coffers of the DGT for additional funds, and any additional drain on its finances are bound to jeopardise the cable project.

Already the start-up phase of the project has been scaled down. The original idea was an initial Ffr 12bn programme to wire up 6m French homes by 1992 and 1.4m by the end of

next year. M. Mexandeau said at the beginning of this month that the DGT would now initially be investing only Ffr 1bn but the 1.4m homes target should still be reached by the end of next year. The aim was to reach an annual wiring rate of 1m homes a year by 1986.

But many doubt that this 1m rate a year can be achieved so quickly. Not only will it depend on the DGT's finances, but also on the domestic industries which the DGT will contract to build the optical fibre networks.

The main French telecom manufacturers have been trying to develop cost effective optical fibre networks but they are not considered to have come up with a particularly efficient solution so far. Of all the domestic manufacturers, the one generally regarded to have developed the best performing system is Velee which has teamed up in a joint optical fibre cable venture with CGCT, the former

French subsidiary of ITT nationalised by the left. But because Velee is only a medium-sized company, the DGT has appeared reluctant to commit itself entirely into the company's hands.

The Velee-CGCT venture has just been awarded the first optical fibre cable contract to wire up 160,000 homes. A second, similar contract for 160,000 homes is due to be given soon to LTT, a home-making telecommunications subsidiary of the nationalised Thomson electronics group. LTT is being transferred to the control of Cit-Alcatel, the telecommunications subsidiary of CCE, the other nationalised electronics group, under the latest French telecommunications industry restructuring programme.

M. Mexandeau, who says France has no intention at this stage of opening its cable market to foreign manufacturers, seems confident that there will be sufficient domestic optical fibre production capacity to satisfy the needs of the cable programme, and eventually of export markets.

He says there is at present domestic capacity to connect up to 200,000 homes a year. This should rise to between 300,000-400,000 homes by the end of the year. He also estimates capacity should rise to around 600,000 homes a year by 1988 and then to 1.3m homes a year in 1989. The prospects for export sales in the short and medium term at least, seem highly uncertain. France's technological achievements in digital public telephone switching systems may provide a cautionary lesson, for these have not been translated so far into the export success that had been hoped for.

The development of cable could also be hampered by the restrictive regulations that the government is adopting for cable programming and for operating networks. There is ample demand for good new programmes. The three national television channels have a long history of increasing attack both from the public and the country's broadcasting authority for the poor quality of their programmes.

But to protect domestic interests, the government has placed a limit on foreign programmes, restricting them to a maximum of one third of all programming on a given local cable network. Moreover, networks will have to show a minimum of 15 per cent of local programmes and invest a third of their revenues into new programmes. These cable television networks will be operated by mixed private-public companies which will pay a fee to the French telecom for making the cable facility available.

However, the private companies will be limited initially to only one venture each. This could clearly cramp large French private groups, including media publishing enterprises. Keep in mind that they are already developing a presence in cable programming.

"The attempt to launch a first French cable programme in 1973-74 collapsed because of opposition from the national television networks, the broadcasting authority, a number of political figures and especially the very strong French cinema lobby," said a senior French telecom official involved in the cable programme. "Cable has always been the baby of the telecom engineers. They lost out last time. But this time it could be the turn of the telecom men to take their revenge." But at what cost?

HOW EUROPEAN COUNTRIES COMPARE

MOST European governments have been infected with an enthusiasm for cable television which goes far beyond the provision of a broader range of TV entertainment. The great attraction is that cable systems could provide the basis for a powerful communications network carrying a host of new services to work and to the home.

Many governments hope that cable television entertainment will help pay for the massive costs needed to rewire advanced societies with the so-called broadband communications networks which

can carry much more information than a telephone line.

At present only 8 per cent of homes in Europe receive cable TV, compared with about 40 per cent in the U.S. But European countries differ widely on how best to develop cable TV, who should pay for the massive capital investment involved, or even which technology should be used.

There are two broad camps. On the one hand, there are countries like France and West Germany where cable television is to be predominantly financed by public investment with the commu-

nications systems remaining firmly under control of the national telecommunications authority. On the other, countries like the UK, Norway and Switzerland are seeking private finance for cable networks which are subjected to public regulation.

In Britain, legislation is currently going through parliament to enable the widespread introduction of cable TV. The Bill will set up an authority to grant franchises and to regulate the industry. Operators using advanced technology will be granted longer franchises than those

opting for proven technology. British Telecom intends to be a major participant and is involved in five of the 11 pilot franchises already awarded.

Cable television trials began in West Germany at the beginning of this year. The systems are being installed by the Bundespost, the telecommunications authority, and the networks will be run by a mixture of public and private broadcasting companies.

In Switzerland, where cable TV is close to saturation national coverage, stations are run by local private operators,

High chairs at BTR

BTR, having swallowed Thomas Tilling last year and now well into the digestive process, is treating itself to a new look in the board room.

The emphasis is upon youth—although Sir David Nicholson, who disclosed yesterday that he is giving up the chairmanship as chairman of the European Parliament Industry Council which was formed last February.

He also remains chairman of Rothmans International, and Selincourt, the textiles group.

The new chairman is to be Owen Green, BTR chief executive, who is being given his chance at the top before he gets too near to the company retirement age of 65.

The significant changes in the age structure of the board are taking place in the other seats round the table. Two senior directors, Don Tapley and Tom Leonard, have recently retired. Four new men have been chosen from within the organisation to become executive directors.

They are Ed Sharp from the U.S., Alan Jackson from Australia, and two UK executives, Lionel Stammers and Hugh Laughland. All four are around the apparently magic age of 50.

Incidentally, Laughland is a windfall from the take-over fight for Tilling. He used to be one of six executive directors on the main Tilling board. BTR under Nicholson and Green has set great store by its in-house executive talent. Within 24 hours of BTR winning control of Tilling last June, hand-picked BTR men were winging their way around the world to take command at the various Tilling operating companies.

They had been stationed at airports, complete with visas, passports, and open tickets, waiting for the signal to go as soon as the fight was over.

Nicholson, who will remain a non-executive director of BTR, is also giving up his active role in European politics. He is not standing again as Member of the European Parliament for Central London in the elections

Men and Matters

next month. Although a committed European still, he believes he can be more useful to the cause outside Strasbourg as chairman of the European Parliament Industry Council which was formed last February.

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"12,000 mile service? There's 10 Chieftain tanks and a Tornado re spray for that Mr Heseltine before you, gov"

the London Symphony Orchestra in London and Cardiff. He says he will place the manuscript on deposit at the Pierpoint Morgan library in New York.

Men overboard

The decline of the British merchant fleet is not the only reason for the National Union of Seamen losing members. It seems. An alarming headline in the union's journal reads: "Ever felt the urge to jump overboard? You're not alone, says top psychologist."

Dr A. D. Macleod, a New Zealand who used to work as a seagoing medical officer, interviewed the 70 officers and ratings on a ship playing regularly between Britain and New Zealand. No fewer than half, he found, had experienced an impulse to jump over the side.

This phenomenon, he says, may be the "critical and tragic factor" in the deaths of the 237 UK seamen listed as "missing at sea" between 1964 and 1978. Macleod, who published his findings in the British Journal of Medical Psychology, refers to the impulse as "calenture"—a term coined in the 18th century for a mental disease observed in sailors in the tropics. It tends to occur on cloudless, calm tropical days when the sailor is alone, leaning on the rail of the ship, feeling tired, and reflecting upon his life ashore.

Miracle play
Lisbon loves a joke about Portugal's politics. The latest story doing the rounds is that Prime Minister Mario Soares, worried about the economic crisis, summoned Finance Minister Erasm Lopes, to discuss the problem.

"What are we going to do?" Soares asked. "There are two solutions, Prime Minister," Lopes responded. "One bureaucratic—one a miracle."

"I don't like bureaucracy very much," Soares said. "But tell me the bureaucratic solution anyway."

"Well," said the Finance Minister, "this is it. Our Lady of Fatima comes down from heaven with a cheque for \$1bn in her hands."

"But that's not bureaucratic, it's a miracle," Soares exclaimed. "Oh no," replied Lopes. "The miracle would be finding a bank willing to cash the cheque."

Observer

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Letters to the Editor

Wrongful use of insolvency

From the Head of Policy Unit,
Institute of Directors

Sir—Your correspondent Mr Alfred Goldman (May 14) is wrong to suggest that the Institute of Directors did not make its voice heard on the Insolvency Law White Paper until after its publication. We did, of course, submit a memorandum well before publication.

Directors welcome the broad thrust of the Cork Committee's Report and the White Paper. Together with many others the Institute is disappointed that Sir Kenneth Cork's proposals did not emerge in the White Paper as the comprehensive package which Sir Kenneth sought. The continuing imbalance in favour of Government Department as preferential creditors unfairly penalises private sector businesses.

The Institute of Directors is now closely involved with Government in the White Paper on workable legislation. Many professionals and insolvency practitioners share our view that the definition of wrongful trading needs a considerable amount of work to ensure that it does not in practice lead to the same trap as the 1975 Social Security Act, which imposes what is in effect guilt without proof of fault upon individual directors and makes them personally liable for unpaid company National Insurance contributions.

The Institute and its members are eager to enforce rigorous penalties against those who abuse the protection of limited liability. Nonetheless a definition which imposes personal liability on a test of imputed knowledge—that directors "ought to have known"—that their company would not be able to pay its debts at the end of the day—must be prescribed with care; the Institute is endeavouring to convince Ministers that the familiar definition of recklessness, or consent, connivance and neglect are appropriate.

Incentives for staff

From Mr M. Crawford

Sir—It is not clear whether Prof Weitzman (a better way to fight stagnation, May 2) thought he was floating an original idea or merely gave that impression due to shortage of space. The wage/salary payments system he was advocating, in the first half of his article, was fairly widely applied between the 1930s and the 1950s in the U.S. where it was known as the Rucker scheme. Variants of it were introduced by several companies in the UK from the 1960s onward. The inherent incentives, for employers and employees, differ considerably according to the specific design characteristics of the scheme. Prof Weitzman does not seem to have noticed this.

He says, for example, that General Motors would have an incentive to restyle and expand production if the workers would accept pay based on a proportion of GM's value added. (Actually he said revenue but he meant value added, since there is no way in which workers and their employers can share the income from goods and services which the company buys in from outside.)

Subject to that correction, his statement is right about the workers' incentives lie?

Not with expansion of employment. Prof Weitzman says they would suffer a decline in wages "compensated" by speculation that this decline would be reversed due to certain macroeconomic feedback effects; but the employees would be justifiably sceptical about that, so far as their own real wages are concerned. There is, however, for them a strong incentive to co-operate in demanding. If GM, in Professor Weitzman's example, cut

means of striking the right balance.

It is because of the urgent need for first class company directors to be prepared—even at the 11th hour—to put their skills to work for companies in need of assistance that we share Mr Goldman's concern about automatic disqualification. Any proposal which leads major banks and finance houses to warn that they will be unable to continue to make non-executive directors available to the boards of companies in need must be damaging; it is clear that the concept of automatic disqualification will not get through Parliament in its present form.

G. C. S. Mather,
116 Pall Mall, SW1

From Naomi Turi

Sir—Your article of May 8 could have more accurately been entitled "Wrongful use of limited liability" which is, when all is said and done, the cause of the current abuses of the company winding-up procedures. It is enlightening to know that in 1885 (when the Limited Liability Act became law) that these dangers were already foreseen. Quoting from Hansard for July 26 of that year, "What, in fact, is the measure we are considering? It is a Bill to enable persons to embark in trade with a limited chance of loss, but with an unlimited chance of gain. That is a direct encouragement to a system of vicious and improvident speculation." (Mr Strutt, House of Commons.)

What has become clouded in the current debate is the distinction between directors and shareholders. It is the shareholders who are the powerhouse behind incorporation. It needs to be acknowledged that it is not directors who directors who wrongfully use insolvency. It is shareholders who hold directorships.

Naomi Turi,
6, Thirmer Road,
Streatham, SW16

Stock Exchange green paper

From Mr M. Walters

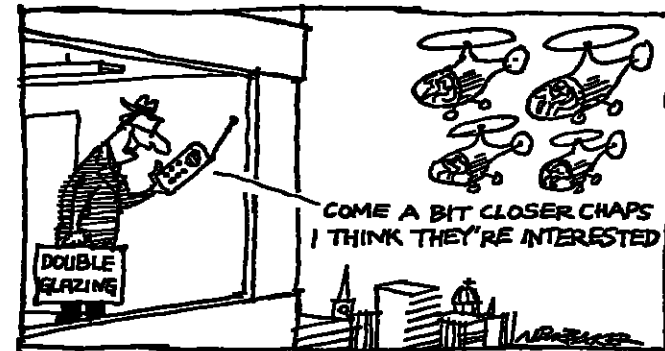
Sir—As the discussion on the Stock Exchange council's green paper gathers momentum there is one aspect which has been seriously overlooked and this concerns the composition of the Stock Exchange council itself.

Significant numbers of the council members are partners or principals of firms which have negotiated a 29.9 per cent self-out to a larger organisation and usually to a very substantial quoted company. By such an action these council members, having established a 29.9 per cent "comfort" for themselves and their firms, can no longer have a 100 per cent interest in the remaining Stock Exchange membership and member firms they purport to represent.

With the Stock Exchange council elections coming up next month this issue must be put to the test. Not only the chairman of the Stock Exchange himself but also others seeking re-election are partners of firms which have completed external deals.

Unless, in their re-election manifesto, those seeking our votes give a reassurance of the interests of the small- and medium-sized firms by referring the green paper back for proper discussion and consultation, it will be right and proper that their position on the Stock Exchange council must be challenged in the forthcoming election.

M. E. B. Walters,
Schaefer & Co.,
18, Selborne Street, ECL



Four 'copters running

From Mr K. Loudoun-Shand

Sir—Captain Eric Brown of the British Helicopter Advisory Board challenges (May 10) claims of excessive noise from the City helicopter. While reading this statement four helicopters were on the barge all with engines/rotors running simultaneously 100 yards from this

building. If the owners and Captain Brown want the helicopter to remain where it is then they should pay for double glazing for those nearest to the noise. K. N. Loudoun-Shand,
Sir John Lyon House,
5 High Timber Street,
Upper Thames Street, ECL

No popular support

From the National Organisation,
The Freedom Association

Sir—In David Goodhart's report on the dispute over the Daily Express editorial (May 11) he refers to the Campaign for Press and Broadcasting Freedom as "growing". Readers may be interested to know that that growth has come about not through its own efforts but simply by decree of the Greater London Council. Last year, it gave CPBF a grant of £35,000 to fund its two full-time staff and one part-timer for a year.

Without this compulsory levy on Londoners, the CPBF would collapse. It enjoys no popular support.

Gerald Hartup,
360-368 Oxford Street, W1

From Mr K. Watts

Sir—The comment in "Men and Matters" on May 11 regarding Sir Douglas Warr's report of greater freedom of information itself demonstrates the need for more of that vital commodity. The criticism of Sir Douglas's past is based on mis-

information. Like many of his former colleagues at the Treasury, I can attest to the fact that Sir Douglas is no convert to the cause of freedom of information. He certainly has believed, for as long as I have known him, that economic policy is best defended in terms of the complete data base on which the decisions were taken.

Although the Governments under which he served may not have met these ideals, it should be pointed out that, in terms of the complete data base on which the decisions were taken, Sir Douglas never held office. He was an appointed servant rather than an elected representative of the people.

To the extent that Sir Douglas has been transformed, it is a transformation consequent upon retirement from the civil service that enables him to talk publicly about these issues. Kevin V. Watts,
35 Frankfield Rise,
Twickenham, Kent

Costly homes improvement

From the Managing Director,
Deedpost

Sir—We are a small company employing 22 people who have been in the home improvement industry for ten years. Because of the nature of our work, many of the services we provided were "zero rated". Imagine then our concern on Budget Day!

On TV, radio and in the newspapers we hear about the extra pension customers will have to pay in VAT on fish and chips, take-aways, etc. If our industry it means customers having to pay pounds and pounds extra. For instance, a customer having new windows fitted this month for £5,000 will have to pay an extra £450 on June 1.

Government policy is to encourage energy conservation—the imposition of VAT on double glazing is a backward step.

The home improvement industry has been a growth area providing significant employment opportunities and overwhelmingly so in small businesses. The inevitable price increase to householders of 15 per cent from June 1 will, we fear, result in a very considerable reduction in sales, and we are seriously concerned for our future prospects.

The effect of the Budget changes will be to encourage the "Cowboys" to offer their services—VAT—for cash. The Government will have made a significant contribution to the development of the Black economy.

Our industry is very busy now and the Government is saying that everything is booming. But only till June 1, we think. We hope we are wrong. A. J. D. Porteous,
241, Building Factory Centre,
Kings Norton, Birmingham

The dangers of removal of support for exports of capital goods

From the Economic Director,
National Economic Development Office

Sir—The publication of the Treasury report on capital export support is very much to be welcomed as a means of bringing the issues involved into public debate. But, it does not appear that Samuel Brittan, in preparing his article on the Treasury and NEDO reports on export aid (May 8) has looked at the reports with care which he customarily exercises. British capital goods exporters are not opposed to free and unsubsidised trade in this field. They believe that on such terms they would be fully competitive, and accept that if they were not, they would have to improve or cease trading. Indeed much very successful business has been obtained in the face of the most intense international competition where no question of support enters. Their concern, as expressed in the critique issued by the economic development committees for the sectors concerned, was not to attack the objective of the Treasury report but to point out that it had perhaps become out-of-date, to question a number of specific assumptions and methods of analysis, to point out what therefore appear to be some inaccuracies in the figures in the report and above all to illustrate the dangers of unilateral removal of support.

There are two reasons for this

last point being important: the matching of capital export aid of other countries gives the only lever for achieving multilateral reductions in such subsidies and, it is argued by Mr Brittan (and others) that even unilateral removal of subsidies is sensible because, although the specific sector suffers, it results in lower public expenditure and a lower exchange rate, which allows other sectors to do better than otherwise. But except under very specific assumptions, this second argument is inaccurate. If, in a completely free trade regime, considerations of competitiveness based on comparative advantage (allowing for human skills, innovative capability, etc.) would lead to expansion of some export market shares in some sectors and reduction in others, then the introduction of subsidies by other countries, unmatched in the UK, can cause an adverse shift in the composition of UK production and trade out of sectors in which the UK is relatively more efficient in real resource use. There is no way of determining a priori whether, in such circumstances, it is preferable to match and offset the subsidy or not.

It depends on a number of real world issues (always so much more awkward than basic principles) such as the size and likely duration of subsidies, the relative competitiveness of different sectors, the size of the

knock-on effects on suppliers, on home demand, on employment and on the PSBR—the matters with which the NEDO critique was concerned. This must also take account, in a way that simple economic principles do not recognise, that industrial performance often depends on years of building up expertise, markets, innovative product design and processes. It cannot just be switched on or off by exchange rate movements.

Though both the Treasury and NEDO reports recognise these difficulties the reception accorded them has unfortunately reverted to the level of unsubstantiated presumptions. If Mr Brittan would have the UK move out of any sectors given support by other countries, then industrialists would no doubt appreciate his advice as to the product markets in the 1990s for which they should now be preparing.

Mr Brittan repeatedly emphasises the notion of special pleading; that different sectors are all interested lobbies and no argument can justify supporting some at the expense of others. What this misses is that, given the absence of full free trading conditions, any decision e.g., to subsidise or not to subsidise any one sector, involves, by design or default, making such discrimination, and there is no way of avoiding it. To believe that the unilateral

absence of any subsidy is "non-discretionary" just because it would be so in a general free trade market is a convenient but nonetheless unjustifiable and potentially damaging assumption. That is why the empirical issues of the relative competitiveness of different sectors, the likely net consequences for the PSBR and the actual costs involved matter. To take but one example, the extent to which capital export orders would sell your won in the absence of any subsidy is a relevant matter, and if, as the NEDO critique argues, the Treasury under-estimated by a factor of up to 5 (an issue that might well be resolved by further discussion) then this materially affects the desirability or otherwise of such support.

As too often happens, Mr Brittan (though not, I stress, the Treasury) has presented the issue as a clash between simple economics on the one hand and special pleading on the other. But the issue is both too complex and too important to be left to this level of debate. Rather I would invite those interested in the issue simply to read the two original reports: of the EDCs, the Treasury paper and the EDC's response to it, and draw their own conclusions about the matter. (Dr) D. J. Morris,
Millbank Tower,
Millbank, SW1

Foreign Affairs: W. Germany

Arms: the SPD edges in from the cold

By Ian Davidson



Helmut Schmidt (left) and Egon Bahr

WHEN the West German Social Democrat Party (SPD) swung against Nato's decision to deploy new Euro-missiles last year, thus reneging on the policy long pursued by the party under the leadership of former Chancellor Helmut Schmidt, there were grave anxieties in the capitals of other Nato countries, especially in Paris.

Some believed that the 25-year-old German consensus on defence strategy had been fatally shattered; others feared that Germany's volatile soul was leading it unpredictably towards neutralism. President Mitterrand of France, as disturbed by these fears as anyone, spared no effort in public and in private to stiffen the resolve of the new Christian Democrat-Liberal coalition to stand by the Nato decision.

Today a greater sense of calm prevails—and it must be said that the British Foreign Office, whether through perspicacity or stoddiness, has always been much less alarmist than its French and American counterparts. The SPD is still wrestling with the problems of German security and defence policy, and the effort betrays a profound unease with some elements of existing Nato and American policy. But there is no evidence of a new groundswell towards neutralism, and the unease is not different in kind from that felt in many European countries.

Over 300 motions on defence and foreign policy have been put in for this week's party congress, but not one of them questions Germany's membership of Nato, not even from Oskar Lafontaine, the SPD politician who has in the past been publicly associated with the idea.

The unease of the SPD, like that of many other political parties in Europe, focuses on the role and the dangers of nuclear weapons. Party leaders talk of the need to change Nato's strategy to flexible response; but this statement of defence minister to differ only in degree from what is becoming the conventional wisdom in many Nato countries.

Karl Kaiser, director of the German Foreign Policy Institute in Bonn, has long been associated with the SPD, and he was one of the few brave souls publicly to defend the policies of Helmut Schmidt when the lemmings were running away. Today he believes a new consensus may be emerging in Germany as a result of the emotional debate of 1981-83.

"More people now understand the role of nuclear weapons, I know of no SPD member of the Bundestag who wants to get rid of nuclear weapons, though some would like to confine them to their political function—whatever that may mean. Most people in the SPD, as in the CDU, want to work for improvements in Nato's strategy of flexible response, not for its abandonment; most people in the SPD, as in the CDU, want to strengthen European co-operation in foreign and security policy."

"I am more relaxed," he says. "We are moving in directions which can be handled, and may even improve the situation." This week's defence policy debate will be conducted against the background of the report of a working party, whose members spanned the gamut from Hans Apel, formerly defence minister in the Schmidt administration, to Egon Bahr, the quicksilver architect of Germany's Ostpolitik under former Chancellor Willy Brandt.

If this represents the new mainstream views of the SPD, it overlaps substantially on many points with the views of other parties, of left and right, in other Nato countries. There are also points of divergence; but then, the nuclear reappraisal, both as a result of the Euro-missile controversy and as a result of new interest in hi-tech conventional weapons which might be able to take over some of the functions hitherto ascribed to nuclear armaments, is in a state of great fluidity in professional as well as in popular circles throughout Europe. The particularism of the SPD working party report have more to do with Germany's special position

in Europe than with any supposed neutral tendency.

The SPD report says: "Germany remains committed to the European Community and Nato. She only obtains her security with her partners and allies—and not without them."

No problem. The SPD report argues for stability through the balance of forces, specially conventional forces; the central theme of the Scowcroft Commission's report on U.S. nuclear strategy was the paramount importance of stability.

The SPD report argues that Nato should move away from early use of nuclear weapons in the event of a Soviet attack; this is now the commonly expressed aspiration of every general and every politician in Western Europe.

The SPD report urges the elimination of battlefield nuclear weapons "as a result of verifiable agreements between the alliance and, subject to the pre-condition of stability in conventional weapons, the gradual establishment of battlefield-nuclear-weapon-free zone in Europe."

Nato has already agreed to reduce the number of nuclear weapons in Europe by 40 per cent, and the Bundeswehr would like to reduce battlefield nuclear weapons "as much as possible," short of total abolition.

More controversial is the SPD concept of a joint security arrangement between Nato and the Warsaw Pact: to some ears, it sounds suspiciously like the first wavel words of appeasement in the face of the Soviet Union's nuclear parity and conventional superiority.

But this is what Egon Bahr has to say: "The security of East Germany is our security; and the same goes for the U.S. and the Soviet Union. We must ask the Warsaw Pact to enter strategic talks with us."

"Our hostility, our ideological struggle will go on; the conflict between democracy and communism will continue. But we must ask the Soviet Union if they will accept common ceilings in conventional forces; either they must go down, or we must go up."

The East-West negotiations aimed at achieving a balance of conventional forces in Europe have been deadlocked in Vienna for over 11 years. I asked Mr Bahr if, in these circumstances, he would be prepared to support increased expenditure on conventional weapons to achieve a stable East-West balance. "If we have to spend more for conventional balance, I would be willing. The money would be well spent for raising the nuclear threshold. This would not get big applause in the SPD but all responsible people are clear on this point."

Peter Giotz, national manager of the party, says: "The SPD supports closer consultation between Germany, France and Britain through the Western European Union (the defence treaty which links these countries with the Benelux states) to develop Nato's strategy; flexible response in its present form won't work for the next decade—we need more conventional defence, with more defence spending."

But beyond these propositions, there is a neutrality about nuclear weapons which goes to the heart of the West European problem. Egon Bahr: "I personally think there should be no nuclear weapons on the territory of non-nuclear states. Control cannot be shared, nuclear states cannot have equal rights. Consultation means nothing."

It is difficult to reconcile the volatility of American policy and sliding credibility of the U.S. nuclear guarantee, with the expectation that the West Germans should assert a serene and unwavering confidence in that guarantee. So it is not surprising that Germans search both for a modification in the mechanisms of that guarantee (a shift in the conventional nuclear balance), and for an intensified communion with their West European neighbours. It is fortunate that some of Germany's neighbours are responding so actively to this search.

Moving biotechnology into the future. Pharmacia Fine Chemicals at Biotech 84.

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If you are involved in R & D or production, be sure to listen to Jan-Christer Janson,



Scientific Director, Pharmacia Fine Chemicals, present "Purifying the products of biotechnology: current developments and future trends". You'll also be able to examine the latest in laboratory and production scale purification technologies at our stand in the commercial exhibition.

And if you feel that the business of biotechnology is your forte, you'll undoubtedly find much to interest you when Gunnar Wessmar, Pharmacia Group President, speaks on "Biotechnology management: choosing the strategy for success".

We look forward to meeting and working with you.

To learn more about Pharmacia Fine Chemicals, read what the Financial Times had to say about biotechnology's move into full scale production. Then look at our own prospectus—leading figures from industry, government and the financial world have contributed. We'll send you copies on request.

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EMPHASIS SWITCHED TO FRONT LINE FORCES

UK plans major defence changes

BY BRIDGET BLOOM, DEFENCE CORRESPONDENT, IN LONDON

A MAJOR reorganisation of the British defence establishment is foreseen in the annual White Paper (policy document) on Defence, published yesterday.

The White Paper, which was launched at a press conference by Mr Michael Heseltine, the UK Defence Secretary, pulls together strands in government policy which have been emerging over the past few months concerning both the central reorganisation of the Defence Ministry and the armed services as well as reforms designed to improve efficiency in weapons procurement.

Mr Heseltine described the range of his initiatives as the "greatest single overhaul of the machinery for development and co-ordination of defence policy for two decades."

Mr Heseltine's stated aim is to improve efficiency, achieve greater cost effectiveness in spending Britain's annual £17bn (\$23.4bn) defence budget and secure a redistribution of resources from overhauls to front line forces.

Measures detailed by the White Paper yesterday include tightening rules for defence contractors so as to increase competition across the range of UK Ministry of Defence activities. But business is also likely

to benefit from the minister's intention to contract out or privatise more of the support functions, such as aircraft servicing or army equipment repair, now carried out by the armed services themselves.

At the centre of Mr Heseltine's reorganisation are reforms which he announced in outline in March and which will be the subject of a separate White Paper in July. The reforms, outlined again in yesterday's White Paper, and currently being worked out in detail within the Ministry of Defence, have aroused considerable if so far uncoordinated opposition at senior service levels in the ministry.

If they are implemented as Mr Heseltine originally envisaged, they would greatly centralise management control of defence by removing all policy and weapons planning staff from the UK Chiefs of Staff who would become administrators of their services only.

Yesterday's White Paper provided evidence of how Mr Heseltine intends to slim the services themselves to try to make them more efficient fighting organisations. Each is likely to see a substantial cut in its support manpower.

Mr Heseltine announced that the Navy would be able to keep on ac-

tive service eight warships which should have gone into the UK standby squadron, which will now be abolished. This will not affect the number of frigates and destroyers in the fleet - which will remain at 50. But the Navy must cut 2,000 jobs from shore support organisations to crew the eight ships.

Army studies, codenamed Lean Look and Sharp Sword, will result in a reduction of 4,000 men in the British Army's support services, the White Paper reveals. A similar number will be deployed over the next few years to man new equipment, mainly with the army in West Germany.

Many of the services now performed by the UK armed forces themselves will be contracted out to the private sector. Pilot studies are underway, on aircraft servicing and many other services, which if successful could result in the transfer of considerable business to the private sector.

At his press conference, Mr Heseltine emphasised his intention to extend competition as far as possible through the procurement of weapons systems. In 1982-83 only some 20 per cent of contracts, worth £8.8bn, were awarded on a competi-

tive basis, according to the White Paper. Mr Heseltine said this was a misleading figure, since many a major contractor let sub-contracts on tender.

Savings of up to 30 per cent on some recent contracts had been achieved as a result of the Ministry of Defence's tightened rules for companies, the White Paper claimed, although Mr Heseltine said it would be unrealistic to expect such savings across the whole range of defence contracts.

Mr Heseltine indicated yesterday that his plans were on target for publication of the White Paper on the Ministry of Defence reforms at the end of July. The reforms are to come into effect from January 1 next year.

The Defence Secretary made light of opposition to the reforms from within the armed forces. "We are dealing with great traditions of proud and proficient services," he said. They tended historically to resist change, Mr Heseltine added, however, that he had heard no argument which convinced him to change his mind.

Details, Page 13; Editorial comment, Page 18; Reagan bid to save MDX, Page 6

Mexican president to stress debt issue in U.S.

By David Gardner in Mexico City

PRESIDENT Miguel de la Madrid of Mexico was last night due to begin his first state visit to the U.S. against a regional background of alarm at the rising trend of U.S. interest rates and concern at the arms build-up in Central America.

The three-day visit comes after President de la Madrid's tour of South American capitals at the end of March and last week's official visit to Canada, which were seen in Mexico as assertions of independence from the U.S., Mexico's major trading partner and creditor.

President de la Madrid has had two informal meetings with President Ronald Reagan, in October 1982 in San Diego and last year on the Mexican side of the Californian border.

Apart from the debt and Central America issues, President de la Madrid hopes to make progress on negotiations towards a bilateral trade treaty and on the problem of illegal Mexican emigration to the U.S.

In talks with President Reagan, and in a speech to Congress scheduled for tomorrow, President de la Madrid is expected to stress that the stability of the region depends on finding an equitable solution to the debt crisis. Such a solution the Mexicans believe, must lead to the resumption of the net inflow on funds needed to finance Latin America's development, which is being made impossible by rising interest rates and increasing U.S. trade barriers.

Mexico intends particularly to stress that it is in the mutual interest of the U.S. and the Latin American nations to restore normal trade relations. Since Mexico's financial collapse in the autumn of 1982, for example, the U.S. has lost \$10bn in sales to the country due to the shortage of foreign exchange with which to pay for American goods.

On Central America, Mexico is known to be concerned that the efforts of the Contadora group of nations to seek a negotiated solution to the region's conflicts are being undermined by the consolidation of a U.S.-backed bloc - consisting of El Salvador, Honduras, Costa Rica, and to a lesser extent, Guatemala - against the Sandinista regime in Nicaragua.

The long-standing problem of illegal Mexican immigrants to the U.S. has taken a new turn in recent months due to a crackdown by the immigration service. This has had serious effects on production among computer and electronics companies in southern California, where scores of Mexican workers have been detained and subsequently deported.

See Lex

Hart looks for surge on home stretch

By Reginald Dale in Washington

SENATOR Gary Hart hopes to enter the final stage of this year's democratic presidential nomination race with victories in today's primaries in Oregon and Nebraska.

The Senator from Colorado is hoping for a surge through the remaining seven primaries to propel him to the nomination at July's national party convention in San Francisco.

His main rival, former Vice-President Walter Mondale, has already tacitly conceded defeat in Oregon, where Mr Hart held a two-to-one lead in an opinion poll conducted at the weekend. The contest looks closer in Nebraska, although Sen Hart is considered the marginal favourite.

Mr Mondale's campaign advisers believe that he will win the nomination even if Sen Hart carries all of the remaining states.

Mr Mondale, however, would like one major victory and he is aiming for that in New Jersey, which votes with California, New Mexico, South Dakota and West Virginia on June 5, the last day of the primary season.

Unofficial figures put Mr Mondale 435 short of the 1,967 delegates needed to win the nomination, with a total of 1,532. Sen Hart has 886 and the Reverend Jesse Jackson, the third candidate, 305, with 823 still to be chosen.

Sen Hart's intention is to stop Mr Mondale reaching the "magic number" of 1,967 by the end of the primaries, then build his majority by attracting uncommitted delegates and persuading others to change sides.

Mr Mondale, having lost Ohio and Indiana last week, is facing renewed questions about his "electability" in a contest with President Reagan in November. He has responded by going back on the attack against Sen Hart, accusing him of "unsteadiness," "inconsistencies," "flip-flops" and lack of experience.

Sen Hart says that Mr Mondale is jeopardising party unity by returning to the divisive, negative campaigning he used so successfully against Sen Hart earlier in the race. Mr Mondale only seems to care about party unity when he is in the lead, not when he is losing primaries, Mr Hart claims.

Mercantile House bid to create U.S.-style securities business

BY JOHN MOORE, CITY CORRESPONDENT IN LONDON

MERCHANTILE House Holdings, the fast growing UK-based international financial services group, yesterday announced that it is acquiring Jessel, Toynbee & Gillett, a London discount house, for £23.6m (\$33.3m) and a 29.9 per cent stake in stockbrokers Laing & Cruickshank as part of its efforts to create an American-style securities operation in London.

At the same time the group revealed a major management and staff shakeout in its discount operations. About a third of the staff is expected to be asked to leave.

The staff cuts will take place at Jessel, Toynbee & Gillett, which Mercantile House acquired in February for £20m, and at Jessel Toynbee.

Both Jessel and Toynbee are discount houses act as intermediaries between the Bank of England and the banking system, dealing in a variety of short-term monetary instruments.

At Jessel's about 17 of the 52 staff, including Mr Douglas Grant,

the managing director, are expected to leave. Mr Grant, who has been with Jessel for 29 years, is discussing the terms of the settlement for his departure. At Jessel 15 of the 41 staff are to go.

Mr Michael Toynbee, chairman of Jessel, said yesterday: "I shall see every member of staff this afternoon to tell them what their position is. It is very difficult. Until you get the acceptance of your shareholders on the deal you can't really let them go, because there is always an outside chance that something might go wrong and the deal might not go through."

In the proposed deal Mercantile is offering three of its shares for every 10 shares in Jessel with an alternative floating rate loan note offer.

Jessel is to be combined with Jessel Toynbee to create the third largest discount house in London. Mr Jeremy Hardie, chairman of Jessel Toynbee, said yesterday the staff cuts on his side of the discount opera-

tions were being carried out to achieve the same or more volume of business with reduced staff costs.

Laing & Cruickshank approached Mercantile House, which initiated yesterday's link. Mercantile is to acquire - once the Stock Exchange's rules on outside ownership are relaxed - 100 per cent ownership of the stockbroker.

The latest transaction places a value of £25m on the whole of Laing & Cruickshank. The shareholders, led by Stock Exchange council member Mr Robin Stornborough-Darling, are to take the proceeds they receive from the disposal of the 29.9 per cent stake out of the business.

Mr John Barkshire, chairman of Mercantile, said yesterday: "We have acquired the major bricks in constructing our securities house. We will fill in the gaps by expanding our base or attracting teams of people in the City."

See Lex

Berliner Bank goes to market

BY LESLIE COLTIT IN BERLIN

BERLINER BANK, the only city-owned commercial bank in West Germany, is to take its first step toward privatisation with a flotation on the West German stock market to increase its capital. The bank's equity base is to be raised by DM 65m to DM 250m (\$90m) because of a growth in business volume.

The city of West Berlin no longer wishes to divert funds from its budget toward increasing the bank's capital and is in any case bound by Government rules which require the return of city-owned enterprises to private ownership.

Berliner Bank was created in 1950, a year after the West German currency reform and the end of the Berlin blockade, when there was little capital available in West Germany. The city-state of Berlin was obliged to hold the shares of the bank, which was legally a private institution.

In recent years the bank has set up branches in six West German cities and in London in addition to its Luxembourg subsidiary. Business volume of the parent bank rose 7.4 per cent last year to DM 11.4bn; the group's volume increased to DM 22.4bn from DM 20.7bn.

Berliner Bank made an operating profit last year of DM 20.7m after breaking even in 1982.

The city finance department is receiving a 12 per cent dividend for 1983; no dividend was paid in 1980 and 1982. In those years Berliner Bank suffered from its involvement in loans to Poland, and to the ailing AEG company and from losses on a city-guaranteed loan to a West Berlin construction company that went bankrupt.

When Berliner Bank's capital was last increased in December by DM 12.5m, the city paid DM 300 per DM 50 share.

Tokyo shares hit by selling wave

BY ROBERT COTTRELL IN TOKYO

TOKYO share prices fell sharply yesterday, with the Nikkei-Dow Jones 225-share index registering the second-largest single session drop on record. The index ended the day at a six-week low of 10,583.34, down 270.53 points on Friday's close.

The dollar strengthened to ¥175 to ¥231.5 at the Tokyo close, its highest level since the beginning of March.

Brokers said that although stock dealing was light yesterday, overseas orders to sell had built up at the weekend.

Tokyo was said to be experiencing a continuation of the wave of selling which swept many major world markets last week. It was thought that the 18-month-old Japanese bull market, which took the index to a record 11,190.17 on March 4, may have peaked.

"It is a correction which we had been expecting, but not before June," said Mr Simon Groves, Tokyo representative of Greiferson, Grant, the London stockbroker. "It was a very bad day on Friday, and a worse day today. U.S. dollar interest rates have gone very high, and

the yen is falling. Money is moving out of equities into the bond market. Foreigners are selling."

Foreigners are estimated to have been net sellers of Japanese shares for the last eight weeks, though until last week the pressure was more than counterbalanced by domestic buying. Now, says Mr Nick Gregory, research manager in the Tokyo representative office of stockbrokers Hoare, Govett, "there is a growing awareness of how big the foreign selling has been."

Tokyo stock market report, Page 33

Reagan backs away from blaming Fed

Continued from Page 1

Long Bond due in 2013 was also marked sharply lower, dropping more than one point in price by lunchtime to 88½ to yield about 13.53 per cent.

At the Monday lunchtime prices, the Wall Street firms and others which bought the new long bond as part of the quarterly refunding package - and must pay for their purchases today - already had paper losses of more than \$100m on the long bond alone.

"The market is totally demoralised," said one trader. "Retail investors have just frozen. All the trading is between dealers." Other Wall Street bond traders described yesterday morning's performance as "wild" and noted it resembled trading early on Friday when bond prices plunged under a wave of selling pressure only to recover later as bargain hunters stepped in.

In contrast to long-term rates, short-term U.S. interest rates were unchanged or slightly lower in early New York trading yesterday. Nevertheless, the acute nervousness in the U.S. credit markets again held the equity market back. After a drop of more than five points in the first minutes of trading the Dow Jones Industrial Average was 6.80 points lower at 1150.34 at 12.30pm with more than 30m shares changing hands and the New York Stock Exchange ticker tape running up to five minutes late in early trading.

The dollar lost ground on foreign exchange markets in what dealers described as a correction to sharp gains last week and amid nervousness that any renewed rise could prompt heavy central bank intervention.

Central bank governors meeting in Basel, Switzerland, however, gave no indication that they planned concerted action to hold back the U.S. currency, though they voiced concern at the impact of high U.S. interest rates.

THE LEX COLUMN

More Houses for Mercantile

The chairman of Mercantile House, Mr John Barkshire, has always aroused mixed feelings in the City but never an opinion of him have polarised as they did yesterday.

The shareholders of Laing & Cruickshank received a generous £7.5m for 29.9 per cent of their business, with the promise of more later, while about a third of the employees of Mercantile's discount house stable could contemplate nothing more attractive than premature redundancy.

The pruning which will follow from the combination of Alexanders and Jessel under Mercantile ownership represents the less appealing face of the City revolution and offers some forebode of what the stockbroking community may confront in the new regime. Yet, from a strictly commercial standpoint, it also raises the question of why Mercantile bought Alexanders in the first place.

Mercantile is paying a premium of 38 per cent to fully disclosed net worth for Jessel, which looks an expensive way of injecting more capital into the group's discount market operations.

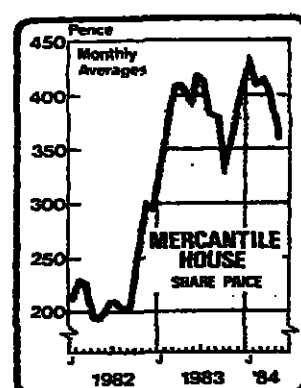
Mercantile will admittedly fund the acquisition with its own paper but it is difficult to interpret the deal other than as a vote of no confidence in Alexanders and its senior management. In the three months since Mercantile bought Alexanders its own share price has fallen 10 per cent while Jessel's has risen about 15 per cent. Having failed to capture Gerrard & National, it might have been more sensible to move directly for Jessel.

Laing & Cruickshank brings to Mercantile a highly regarded team of financial analysts, a respectable private client department and a medium-sized corporate finance operation.

Whether all this justifies a multiple of 11 times earnings, in an exceptionally good year, is a matter for debate. Mercantile has certainly accomplished its goal of establishing a presence in the UK securities market, but has yet to show how all the pieces in the Meccano set will bolt together.

U.S. markets

It was all action again in the U.S. markets yesterday, as 10 leading banks charged in to relieve Conti-



the main reasons for what were seen as slightly disappointing first-quarter profits of £18m, and it is quite possible that other U.S. brands now waiting in the wings will receive similarly heavy support later in the year.

In the past, Lever's role in the U.S. market was that of football rather than player - a role defended as necessary to study international competition, such as Procter & Gamble on its home ground. Of late, P&G has been losing some of its aura of invulnerability, and if Unilever can dent it in the U.S., there could be interesting implications in other world markets.

In Europe, it is encouraging to see that every consumer and industrial division - edible fats and oil milling excepted - showed volume growth, and that volume was translated directly into higher margins. Some margin improvement would be expected at this stage of the cycle, but not perhaps this much. Certainly, the group is leaner and fitter, more important, it may in this respect be establishing a slight edge over the competition.

BPCC/Bishopsgate

As they looked around for ways of degrading the BPCC balance sheet while simultaneously widening the group's shareholder base, it cannot have taken too long for Mr Maxwell and his advisers to find a suitable investment trust for dismemberment. Bishopsgate should produce just under £30m at its current net asset value - neatly cancelling BPCC's debt with the exception of an £11m term loan - and its register of shareholders gives BPCC a ready-made extension to its institutional list.

Assuming that the new BPCC shares are all taken up (whether by Bishopsgate holders or by minority holders of BPCC) the 75 per cent Pergamon stake would fall to just over 60 per cent. This dilution should help to make the shares more marketable, an objective which could scarcely be harmed by announcing an intended 1984 dividend increase of 50 per cent. With perhaps £3m of interest charges no longer weighing on the BPCC revenue account, and with a second phase of loss elimination in the pipeline (from Odhams and Park Royal) Mr Maxwell could have few qualms about offering this long-range largesse to make the deal go.

Unilever

Maybe there is some truth in tales of Unilever's aggressive new management after all. The assault on the U.S. shampoo market, certainly, is nothing if not determined; the £10m national launch cost of the Dimension brand was one of



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SECTION II - INTERNATIONAL COMPANIES FINANCIAL TIMES

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ITALIAN CAR MAKER PLANS \$450m RIGHTS ISSUE

Fiat doubles profits and lifts dividend

BY JAMES BUXTON IN ROME

FIAT SpA, the holding company of Italy's largest private enterprise, yesterday announced a sixfold increase in profits, including a rights issue worth L760bn (\$450m), and doubled profits for 1983.

The group, whose turnover in the past three years is one of the most significant developments in recent Italian corporate affairs, was boosted by the fact that its car division, led by Fiat Auto, made a modest profit - the first since it was established in 1979.

But Fiat's industrial vehicles subsidiary, Iveco, plunged heavily into loss, and its earthmoving equipment subsidiary, Fiatallis, again recorded a big deficit.

Fiat SpA's net profit was L214bn, compared with L111bn in 1982. The dividend is to be increased to L180 per share from L160.

Borrowings were down by about L650bn at L3,500bn.

The board, presided over by Sig Giovanni Agnelli, whose family owns about 30 per cent of Fiat, decided yesterday to increase the capital from L37.5bn to L2,025bn. Of

this some L875bn in new funds will go towards the L6,000bn the company reckons it will have to invest in the next three years. The rest of this investment requirement, more than half of which will go to the car division, is expected to come from self financing.

The capital increase will be in three parts. First, the company will raise its nominal capital from L37.5bn to L875bn by doubling the par value of each share to L1,000. Next it will make a scrip issue of ordinary and preference shares worth L1,000 each for a total of L875bn.

These shares will be assigned on a one-for-one basis.

There will follow a rights issue of L875bn nominal worth of ordinary and preference shares on a one-for-one basis at L1,130 a share. The issue will go ahead this autumn on the Milan stock exchange.

The Agnelli family, through its holding company IFI, is expected to take up its full allocation of rights.

Fiat had a 0 per cent rise in group turnover to L21,965bn last year. Of this, Fiat Auto accounted for



Sig Giovanni Agnelli

L11,888bn, an increase of 14 per cent. Despite the fall in the Italian car market the company increased its market share in Italy to 55.4 from 51.8 per cent and maintained its production volume and leadership of the European market, of which it had 12.6 per cent.

Profit was L880.6bn after taking into account losses by overseas subsidiaries amounting to L116bn. Fiat Auto's largest overseas subsidiary, in Brazil, made an operating profit, but a net loss of L70bn because of high debt servicing costs and exchange rate losses resulting from the devaluation of the local currency.

In contrast, Fiat's industrial vehicles division, headed by Iveco, plunged into loss, with a deficit for the Dutch registered company of F1 232.6m (\$76m) compared with a profit in 1982 of F1 16.4m. The division's sales were down 9 per cent at L4,517bn. Unit sales of Iveco were down 6 per cent.

A major cause of the fall in sales was the continued weakness of the Italian industrial vehicle market, which fell 20 per cent even though Iveco increased its market share. Earlier this month Fiat appointed a new managing director to Iveco.

Fiat's tractor division, led by Fiat Trattori, reported a 12 per cent sales increase at L1,735bn and prof-

its of L14.4bn, compared with a profit of L9.4bn in 1982. This was despite a further 10 per cent fall in sales in the Italian market. Nevertheless Fiat won 15 per cent of the European market, in which it was again the leader.

Fiat's Dutch-registered earthmoving equipment sector, led by Fiatallis, lost F1 143m slightly down from the 1982 loss of F1 160m. Sales were down 17 per cent at L804bn, thanks to sharp falls in the Italian, French and South American markets.

The metallurgical products division, led by Teksid, achieved a 15 per cent rise in sales, but Teksid itself lost L48bn after taking into account the losses of subsidiaries, notably in Brazil.

Fiat's components sector, which makes up about 10 per cent of group turnover, enjoyed an 11 per cent sales increase to L2,280bn, with all subsidiaries making profits.

In the production systems division, Comau made a profit of L10.3bn. The division's sales were down 7.3 per cent at L465bn.

K Mart earnings surge by 30%

By Paul Taylor in New York

K MART, the second largest retail chain store group in the U.S., yesterday reported a 30.1 per cent surge in first quarter earnings, fuelled by record sales of \$4.18bn and a particularly strong performance in clothing.

The Troy, Michigan-based group, which operates 2,161 discount department stores in the U.S., Canada and Puerto Rico, said its net earnings in the first quarter increased to \$58m or 45 cents a share from \$44.6m or 35 cents a share in the same period last year. Sales grew 6.1 per cent from \$3.93bn.

K Mart's first quarter performance was in line with market expectations and was the eighth consecutive quarterly earnings increase and the fourth record quarter in a row.

Mr Bernard Fauder, chairman, said clothing sales increases during the first quarter were nearly double the corporate average, providing a favourable impact on gross margins. K Mart, which began a store refurbishing programme three years ago, has been placing particular emphasis on high quality, low-cost family clothing.

Gross margins - after buying and occupancy costs - increased to 28.8 per cent in the latest period from 27.5 per cent a year ago, due primarily to improved merchandising programmes and the strong contribution from the clothing division.

During the latest quarter K Mart opened four new stores compared with 11 in the 1983 first quarter and has plans to open a further 25 to 30 this year.

Mr Fauder said he expects future earnings improvements to result from continued economic stability.

Nuovo Ambrosiano group considers sale of La Centrale

BY ALAN FRIEDMAN IN MILAN

NUOVO Banco Ambrosiano, the successor to the late Sig Roberto Calvi's failed Ambrosiano group, is considering the sale of its major remaining assets, the La Centrale financial holding company.

A senior executive at La Centrale said yesterday that a consortium of around 20 banks from the Veneto region of Italy was seeking to offer around L300bn (\$178.5m) for the 47 per cent controlling stake in La Centrale held by Nuovo Ambrosiano.

This compares with La Centrale's market value of L235bn, based on yesterday's Milan bourse share price of L1,775.

The real target of the Veneto banks is La Centrale's own controlling stake in Banca Cattolica del Veneto, one of the two "plums" inherited by the Nuovo Banco Ambrosiano group when it took over the 1982 collapse of the Calvi bank.

At La Centrale, a senior executive confirmed that preliminary discussions had been held with parties interested in making a bid. But it was stressed that at this stage formal negotiations had not started and the Nuovo Ambrosiano board must first "consider" the possible disposal.

Two weeks ago La Centrale announced the sale for L220bn of Credito Varesino, another profitable company inherited by the Nuovo Ambrosiano group. This wiped out La Centrale's L1,500bn of debts from the days when it was controlled by Sig Calvi.

91 per cent of Cattolica's issued capital.

There has long been speculation that La Centrale, which still has 40.9 per cent of Rizzoli (also stemming from Calvi days), would try to sell the stake and eliminate some of its own debts and those of its Banca Cattolica subsidiary.

The board of Nuovo Ambrosiano meets today in Milan to discuss the future of La Centrale. Banca Cattolica and its own need for more capital. Nuovo Ambrosiano is owned by a pool of seven Italian banks, public and private, which took over after the 1982 collapse of the Calvi bank.

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Bekaert confident of upturn

By Paul Cheeseright in Brussels

BEKAERT, the Belgian steel wire producer with plants in 14 countries, expects its profits recovery to continue this year.

"Volume, turnover, profitability, all indexes are moving in a positive direction," said M. Jean Charles Veige, president, in the company's annual report.

Last year net profits at Bekaert rose dramatically to BFR 1.7bn (\$30m) from BFR 702m in 1982 and BFR 130m in 1981.

With an influx of capital from a BFR 640m rights issue, the group is embarked on a geographical expansion of its activities in Brazil, the U.S., Japan and Europe and diversification through innovation in its product range.

The strong dollar has helped to swell export revenues in terms of the Belgian franc, and this undoubtedly remains a strong element in the group's confidence that the trend towards higher profits will be continued.

On the negative side "the current erratic behaviour of the money markets is a matter of constant concern," according to Baron Bekaert, the chairman. So too is the likelihood of rising wage costs in Belgium this year, eroding gains in competitiveness achieved in 1983.

Within the EEC, the uncertainties of steel industry controls mean constant changes in wire rod purchasing policy. But the EEC as a market for Bekaert products is gradually declining in importance.

Swiss insurer shows advance

By John Wicks in Zurich

SWISS Insurance Group La Suisse, of Lausanne, reports a 13.7 per cent rise in gross premium income to SwFr 469.8m (\$206m) for last year.

This includes premiums of the parent company, La Suisse Société d'Assurances sur La Vie, of SwFr 207.1m of the casualty subsidiary La Suisse Société d'Assurances Contre Les Accidents of SwFr 198.7m.

After a rise in net profits from SwFr 1.8m to SwFr 2.2m the life assurance company is to pay an unchanged dividend of SwFr 70 plus a 125-year-jubilee bonus of SwFr 20 per registered share.

Turbo Resources suffers record deficit

BY BERNARD SIMON IN TORONTO

TURBO Resources, the ailing Calgary-based energy and mining group, suffered a record loss of C\$276m (\$215.5m) in 1983, more than double the previous year's loss of C\$128m.

The increased loss was due to extraordinary items totalling C\$148m compared with C\$12m in 1982, reflecting mainly Turbo's equity share of the write-down of assets held by the 90 per cent-owned subsidiary, Bankeno Mines, which is involved in oil and gas exploration and production.

In addition, the write-down of unspecified assets and settlements involving Challenger International

Services, another subsidiary engaged in oil and gas contract drilling and distribution of construction equipment, cost the parent company C\$33m.

Turbo's operating income before depreciation, interest and extraordinary items was C\$6m last year, compared to a loss of C\$7m, excluding the operations of Bankeno Mines, in 1982.

Turbo's president, Mr Norm Gish, said the company had made "steady progress towards restructuring its debt and restoring financial equilibrium." He said that sufficient cash flow had been generated to meet all current operating needs for the past

16 months. The company's debt at the end of 1983 totalled C\$858m.

Turbo is at the centre of a controversy involving two major creditors and the Ontario Securities Commission, which is acting on behalf of minority shareholders in Merland Explorations, a subsidiary acquired in 1981. The creditors are seeking repayment of C\$25m in unsecured loans before Turbo makes a required offer to the Merland shareholders.

The OSC has extended a deadline to the end of May for Turbo to complete a previously announced sale of Bankeno Mines and to distribute a portion of the proceeds to the Merland shareholders.

With proceeds from the sale, Turbo hopes to pay off about C\$130m of its debts plus the C\$56m it owes Merland minorities.

First City Financial, the holding company of the real estate and quasi-banking group controlled by the Belzberg family of Vancouver, suffered a drop in profit before a C\$1.8m extraordinary item to C\$7.3m (\$5.6m) for the three months to March 31 1984, compared with C\$17.7m a year earlier.

The sharp decline was due largely to substantial gains on the sale of investments included in last year's figures.

Indiana utility calls for cash

BY WILLIAM HALL IN NEW YORK

PUBLIC SERVICE OF Indiana, the financially-weak U.S. power company, is trying to force the junior partners in its frozen Marble Hill nuclear project until a decision is taken on the plant's future.

In a letter to the Wabash Valley Power Association, a consortium of 24 rural electric co-operatives which owns 17 per cent of Marble Hill, PS Indiana said it would probably have to cancel the project unless Wabash started maintenance payments.

The disagreement between PS Indiana and Wabash follows legal action started in February in which Wabash claimed Indiana had concealed problems with the construction of Marble Hill. Wabash stopped all payments.

PS Indiana said yesterday that its costs simply on maintenance of the site in February had amounted to \$800,000, although this was coming down gradually as the work force was trimmed back. It said that if Wabash failed to pay its share it could be forced to abandon the site.

Wabash has previously said that it would like to convert Marble Hill to coal burning, which is said to be technically feasible but would require substantial new funding. But PS Indiana argues that if its partner wants to keep this option open, it ought to be paying part of the costs of keeping the site in shape.

PS Indiana's immediate cash position has improved over the last few months, partly because it has sold more electricity than expected

during the cold winter spell, and partly because it has put off some payments to creditors and pulled forward receipts from clients.

Its financial position, however, depends crucially on efforts to persuade state legislators that it needs further tariff increases following an emergency 5 per cent award given earlier this year. There have been some signs of sympathy for its plight, but it has no real legal redress because utilities in Indiana are not allowed to reflect construction costs in their pricing until projects are completed.

At the same time, it needs to avoid a write off of Marble Hill, which involves two separate units, the first of which is 56 per cent complete.

Arco withdraws from oil lease purchases

BY OUR NEW YORK STAFF

ATLANTIC RICHFIELD (Arco), the Los Angeles-based oil company, has notified the U.S. Department of the Interior that it no longer wants to purchase seven oil leases off the California coast, which it successfully bid for three years ago.

Arco's decision to withdraw from the purchase of the leases is the latest indication of the declining enthusiasm of the major oil companies for oil exploration off the Californian coast. Although Arco and its partners were awarded the

leases in the northern Santa Maria basin off Santa Luis Obispo county during Outer Continental Shelf Sale 53 in May 1981, they have been prevented from exploring for oil in the area because of lengthy litigation by Californian environmental groups.

Arco said yesterday that "the passage of almost three years of litigation caused the company to re-adjust its exploration plans." It says that since 1981 a number of significant changes have occurred

Strong recovery for ITT subsidiary

By Our Financial Staff

STANDARD Elektrik Lorenz (SEL), the West German telephone equipment group, reports a strong recovery in profits for 1983 and says further progress will be made this year.

Against DM 27.9m (\$10.1m) in 1982, the company, which is 88 per cent owned by ITT of the U.S., has increased net profits to DM 86.8m. Sales improved marginally, and the main thrust to profits came from cost cutting.

For the first quarter of this year, sales are 5 per cent ahead at DM 814bn, and SEL expects turnover for the whole of 1984 to emerge around 7 per cent higher. Sales last year totalled DM 4,236bn, against DM 4,150bn in 1982.

Managing board chairman Herr Helmut Lohr told a news conference that this year's improvement to profits will not be as dramatic as in 1983, when SEL's policy of concentrating on high-technology products combined with severe cost cutting to put the group into much better shape.

He said the improvement in business continued in the first 1984 quarter with new orders surging by 64 per cent to DM 1,44bn compared with the same period a year ago. Orders in hand were 27 per cent higher at DM 2,726bn. For the whole of 1984, new orders are expected to grow by over 10 per cent.

SEL plans to increase 1984 capital spending by around 20 per cent from the DM 144m of 1983, he said. Herr Lohr expected both domestic and foreign turnover to rise this year after 1983 foreign sales had increased by 19.8 per cent to DM 1,26bn and domestic turnover had dipped to DM 3,04bn.

Saléninvest to hive-off unit

By David Brown in Stockholm

SALÉNINVEST, Sweden's biggest shipping group, is to raise at least SKr 160m (\$22.15m) by hiving off a small part of its dry cargo operation and selling a majority stake to the public.

Saléninvest will offer a 60 per cent stake or 12m shares in the new company, Monitor Shipping, by tender at a minimum of SKr 15 per share. The remaining 8m shares will be held by Saléninvest.

Saléninvest said the new company will benefit from an expected upturn in the bulk shipping market. Saléninvest will transfer two of its large bulk vessels (110,000 dwt) to Monitor. Two "handy" sized vessels (23,000 dwt) have been chartered.

Saléninvest will continue operating about 30 ships in its own dry cargo division. The group holds a dominant position in the world's refrigerated shipping market and is involved in oil tankers and oil drilling in addition to dry cargo.

Base Rate Change BANK OF BARODA

Bank of Baroda announce that, for balances in their books on and after 14th May, 1984 and until further notice their Base Rate for lending is 9½% per annum. The deposit rate on all monies subject to seven days' notice of withdrawal is 5½% per annum.

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The issue price of the Bonds is 100 per cent. The Bonds have been admitted to the Official List by the Council of The Stock Exchange, subject only to the issue of the temporary Global Bond.

Interest is payable in arrear on 30th May, the first payment being made on 30th May, 1985.

Full particulars of the Borrower and the Bonds are available in the Extel Statistical Service and may be obtained during usual business hours up to and including 29th May, 1984 from the brokers to the issue:

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15th May, 1984

INTL: COMPANIES & FINANCE

HK commitment stressed by Jardine Matheson

BY DAVID DODWELL IN HONG KONG

UNCERTAINTY over the future of Hong Kong has led to problems for Jardine Matheson's international business, particularly when competing for major long-term contracts, joint ventures, new acquisitions or finance. Mr Simon Keswick, the company's chairman and managing director, told shareholders yesterday.

In a document detailing the company's legal transfer to Bermuda from Hong Kong, where it has been based for almost 150 years, Mr Keswick insisted nevertheless that the change was "nothing more than a change in the legal jurisdiction in which the group parent company is incorporated."

Clearly stung by some press and public reaction to the Jardine decision to change its legal home, Mr Keswick began his statement by telling shareholders "what is not proposed."

"It is not proposed that Jardine will leave Hong Kong. It is not proposed that any of our businesses which are in Hong Kong will be moved out of

Hong Kong, or that I, the executive board or the group headquarters will relocate. Our shares will continue to be denominated, our dividends paid, and our accounts kept in Hong Kong dollars.

"These factors, more than any words of mine, demonstrate our continuing commitment to Hong Kong."

Answering why such a move, which will cost the company about HK\$11m (U.S.\$1.4m), has been proposed, Mr Keswick said: "Jardine has always been an organisation operating under a British legal system and all indications are that Hong Kong will evolve along different lines."

The company, which is the oldest in Hong Kong and has interests in property, insurance and trading, had been placed at a disadvantage, he said, "in being unable to answer authoritatively questions regarding the long term future of Hong Kong and the effects of future changes on Jardine Matheson."

The proposals involve exchanging one Jardine Matheson share for one new share in Jardine Matheson Holdings, registered in Bermuda. The normal value of each new share will be HK\$2 rather than HK\$6 as with current Jardine shares—a move to cut the cost of stamp duty on registration in Bermuda, since this is payable on the nominal share value, Mr Ray Moore, the group's finance director, said this would save about HK\$6.4m in stamp duty.

The proposals will be put to shareholders at an extraordinary meeting on June 7. Assuming they win shareholder approval, the move should become effective on June 27, after court sanction has been given.

Jardine does not expect the move, in itself, to result in any change in tax liabilities either for the company, or its 39,000 shareholders, though Mr Moore advised UK-based shareholders to seek advice because of the complex tax regime that existed there.

Reverse for ANZ finance offshoot

By Michael Thompson-Nesbitt in Sydney

ESANDA, the main finance subsidiary of the Australia and New Zealand Banking Group, has reported a 5 per cent fall in net profit for the six months to March 31, to A\$20.1m (US\$18.1m).

This is in contrast to the performance of Australia's biggest finance company, Australian Guarantee Corporation, a subsidiary of Westpac Banking Corporation, which recently reported a 20.3 per cent improvement in net profit in the March half-year to A\$50.1m, though that mainly reflected the merger with the General Credits group last year.

ANZ is due to report its group result later this week. Esanda's directors said the full year result was expected to be comparable with that achieved in the 12 months to last September when Esanda earned A\$55m.

● Hongkong and Shanghai Banking Corporation is forming a new Australian insurance group, Carlingford Australia Insurance, with premium income of A\$55m (US\$49.3m). This follows the acquisition of Preservant Insurance, announced in January, for which Foreign Investment Review Board approval has now been received.

● Carlton and United Breweries (CUB) has sold its 18.7 per cent stake in packaging group Gadsden (Australia) to SA Brewing Holdings for A\$30.22m (US\$27.5m). Reuters reports from Melbourne.

CUB, which bought the holding in January 1983 for A\$25m, sold its 7.6m shares to SA Brewing at A\$3.93 each.

Alex Harvey 36% ahead

By Dai Hayward in Wellington

ALEX HARVEY Industries, the New Zealand building supplies and packaging group, has reported net profits of NZ\$38m (US\$24.7m) for the year to March—a rise of 36 per cent.

The company plans to make a one-for-four scrip issue, increasing its capital to NZ\$75.5m. It is to pay a final dividend of 8 cents a share, making 11 cents for the year. Sales totalled NZ\$522m, of which exports accounted for NZ\$83.7m. In the previous year sales totalled NZ\$451m.

Record profits registered by Indian vehicles group

By John Elliott in New Delhi

ESCORTS, the Indian motor vehicles manufacturer which has been at the centre of a controversial bid for a significant parcel of its shares from Mr Swraj Paul, has registered record net profits for 1983 of Rs 141m (\$12.8m), and is paying a total dividend of 22 per cent with a final distribution of 13 per cent.

Mr Harry Nanda, chairman and founder of Escorts, argues that these results are proof of the company's success and that changes in its ownership and management are unnecessary. He announced that during the year in which the battles with

Mr Paul were fought, sales had risen to Rs 2.8bn from Rs 2.28bn.

Net profits increased from 1982's Rs 60m to Rs 141.2m and Rs 112m has been transferred to reserves which now stand at Rs 372.2m.

The controversy over Mr Paul's share purchases — Escorts have been refusing to register the London-based businessman's holding — may be resolved on June 9 at an extraordinary meeting of the company. An attempt by financial institutions to take control over Escorts and so resolve the dispute between Mr Paul and Mr Nanda will be then discussed.

Luxembourg investment venture for Sumitomo

By Yoko Shibata in Tokyo

SUMITOMO CORPORATION, a major Japanese trading house, has established a Luxembourg registered investment company — Sumitomo Corporation International Investment — to launch the group into the international corporate fund management business.

The new company plans to agree an investment advisory contract with U.K.-based merchant bankers Kleinwort Benson for the handling of short-term investments such as certificates of deposit (CD), commercial paper (CP), corporate and government bonds and securities.

SCII was launched on May 3 with a capital of \$1m all of which was contributed by Sumitomo Corporation. Under the guidance of Kleinwort Benson the corporation plans to

invest some \$50m in surplus funds.

The future SCII plans investments in convertible bonds in the D-mark, Swiss franc and U.S. dollar markets. The company has chosen a Luxembourg domicile for tax reasons and has chosen the connection with Kleinwort Benson because of the bank's experience in the investment field.

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NOTICE OF REDEMPTION TO HOLDERS OF BANQUE NATIONALE DE PARIS

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7 3/4 per cent. Bonds due 1989

Third Mandatory Redemption Due 15th June, 1984 Of Kuwaiti Dinars 1,000,000

NOTICE IS HEREBY GIVEN that, pursuant to condition 5 (A) of the above mentioned Bonds, Banque Nationale De Paris has purchased in the open market and surrendered to Kuwait Investment Company (S.A.K.), as Fiscal Agent, Bonds in the principal amount of Kuwaiti Dinars 403,000 and that on 15th June, 1984, Bonds in the principal amount of Kuwaiti Dinars 403,000 fall to be redeemed at 100% of the principal amount together with accrued interest to the date of redemption. The following Bonds have been drawn by lot to satisfy this redemption requirement:

00455-00471	03529-03545	05490-05506
00818-00834	03986-04002	05633-05649
01259-01275	04100-04116	05855-05871
02395-02411	04383-04399	06443-06459
02537-02553	04669-04685	07448-07464
02722-02738	04956-04972	07773-07789
03093-03109	05140-05156	08819-08835
03221-03237	05211-05227	08998-09014

The Bonds specified above will become due and payable in Kuwaiti Dinars at the offices of Kuwait Investment Company (S.A.K.), Mubarak Al-Kabir Street, Kuwait City, State of Kuwait, or, at the option of the bearer, but subject to applicable laws and regulations, at Citibank N.A. 536 Strand, London WC2R 111B and at Banque Nationale De Paris (Luxembourg) S.A., 24 Boulevard Royal, Luxembourg by cheque drawn on a Kuwaiti Dinar account, with, or by a transfer to a Kuwaiti Dinar account maintained by the payee with a bank in Kuwait, France, and after 15th June, 1984, interest on the above mentioned Bonds will cease to accrue.

Bonds should be surrendered for payment together with all unsaturated coupons appertaining thereto, failing which the face value of the missing unsaturated coupons will be deducted from the principal amount.

The aggregate principal amount of Bonds remaining outstanding after 15th June, 1984, will be Kuwaiti Dinars 7,500,000.

KUWAIT INVESTMENT COMPANY (S.A.K.) on behalf of
Banque Nationale De Paris

Dated: 15th May, 1984

UK COMPANY NEWS

MINING NEWS

One-year delay for Ok Tedi phase II mining operations

BY KENNETH MARSTON, MINING EDITOR

THE FORMAL opening is due tomorrow of the gold treatment plant at the ASL6bn (£1.04bn) Ok Tedi copper-gold open-pit mine in Papua New Guinea.

Time, gold production from the so-called gold cap on the big ore deposit is on, revised, schedule, but the phase II operation which envisages mining of the lower lying copper and gold ore has been delayed by at least a year. Disaster struck early this year when a huge landslide of mud in this jungle terrain inundated the area which had been set aside for the permanent tailings (waste rock) dam. This has delayed the setting up of a permanent waste dam while the construction of a hydro-electric power station has also been put back.

Mr Irwin Newman, the general manager of Ok Tedi told Reuters that the tailings dam will be built in the next 18 months but it will take three years to get hydro energy. Phase II gold-copper production is now expected to start in mid- to late-1987.

In the first year of operations on the gold cap production will reach a daily rate of 22,500

tonnes of ore. This will give an annual output of some 700,000 to 850,000 ounces of concentrate containing about 86 per cent pure gold and the rest largely in silver, making Ok Tedi one of the world's major gold producers.

The first year's production is to be bought by Degussa of West Germany (50 per cent), Massey of Australia (25 per cent) and New York commodity dealers J. Aron (25 per cent). The contract is renegotiable after the first year but Degussa has the right of first refusal to equal the best of other bids.

Mr Newman said that it was not possible for Ok Tedi to pay off its debts without going into copper production, selecting out that the gold-only ore will be mined out quite quickly. After the phase II copper-gold mining, the final phase will be of copper mining alone which will run from 1989 to about the year 2011.

The partners in Ok Tedi are: Australia's Broken Hill Pty Ltd (30 per cent), Massey Minerals of the U.S., part of the Standard Oil of Indiana group (30 per cent), Kupferexploration-gesellschaft (20 per cent) and the Papua New Guinea Government (20 per cent).

Canadian mines facing high anti-pollution costs

ACCORDING to a Canadian Government report, the country's nickel and copper producers are in a financially more vulnerable position now than at any time before, owing to the need to improve productivity and international competitiveness while, at the same time, facing the costs of reducing their sulphur dioxide emissions.

Mr William Rompkey, the Mines Minister, released the report which states that the much-needed environmental improvements come at a time when the non-ferrous industry is struggling with severe marketing and financial difficulties.

The study says that measures for plant modernisation and abatement of pollution would be feasible technically over the short term, but would need a capital investment of about C\$1.1m (£614m).

The study notes that "Given

the clouded outlook for nickel and copper markets generally and the difficult financial conditions of individual firms, it is unlikely that Canadian producers will be in a position to embark on major smelter improvement programmes much before the late 1980s or early 1990s."

Apex & Benguet

TWO small Philippine gold producers, Apex Mining and Benguet Exploration, increased earnings last year and each cited cost controls as the main factor behind the improvement, reports Lee Gonzaga from Manila.

Net income of Apex rose to Pesos 24.8m (£1.26m) from Pesos 11.4m in 1982 while Benguet earned Pesos 7m in 1982 compared with Pesos 4.6m in the previous year.

DIVIDENDS ANNOUNCED

	Current payment	Date of payment	Corr. of div.	Total for year	Total last year
Advance Services	2.7	—	2.5	3.8	3.5
Allied London Props Int	0.22	July 20	0.2*	—	1.33*
Baggeridge Brick Int	1.88	—	1.5	—	5.25
James Beattie	3.4	July 3	2.65	3.4	2.65
Matthew Brown Int	1.75	Aug 3	1.6	—	7.42
Cramphorn	101	—	5	—	25
Crystalite Int	1.47	July 31	1.26	—	3.26
S. Jerome	1.99	July 17	1.99	2.69	2.69
Outwick	1.85	June 13	1.65	2.6	2.4
Readlink	1.2	July 21	0.1	1.2	0.1
Stewart Enterprise	0.4	—	0.4	0.4	—
Tyson (Contractors)	2.5	June 30	2.33	2.5	2.33
Warnford Inv	7.5	Oct 2	7	13.5	12.5
Whesoe Int	2.5	June 29	2.5	—	5.5

Dividends shown pence per share net except where otherwise stated. *Equivalent after allowing for scrip issue. †On capital increased by rights and/or acquisition issues. ‡USM stock. †Unquoted stock. ‡To reduce disparity.

SHARE STAKES

Henlys-Coleman Milne has acquired a further 700,000 ordinary shares making 3.5m (24.98 per cent).

Management Agency and Music-Queens Most Houses has purchased a further 100,000 ordinary shares and now has 845,000 (10.13 per cent).

Charterhouse J. Rothschild-Director N. O. Taube and the Rt Hon D. C. S. Montagu have each acquired 18,000 warrants and G. De Botton has acquired 14,000 warrants.

Garton Engineering-Primrose Hill Securities has sold 35,000 ordinary shares, reducing its holding to 707,100 (20.51 per cent).

Bishopsgate Trust-The Equitable Life Assurance Society's beneficial holding has increased to 2.6m ordinary stock units (11.03 per cent).

Gold and Base Metal Mines-Jantar has purchased a further 25,000 shares and now holds 1,237,495 (20.01 per cent).

Consultants (Computer and Financial)-Mr E. N. Aghababa, a director, has sold 5,000 new ordinary.

Duck Group-EKS Investment AB (Sweden) has increased its holding by 14,324 ordinary and now holds 805,824 (9.61 per cent).

Sunbeam Walsey-Mr K. A. Mulcahy, a director, has disposed of 75,000 ordinary.

Brifanias Arrow Holdings-The Rt Hon Geoffrey Rippon QC MP has purchased 20,000 ordinary at 77½p each.

Tay Hames-Mr D. T. Spencer, chairman and joint managing director, has acquired a further 7,000 ordinary and now holds 2,018,415 (37.9 per cent).

General Investors and Trustees-Grenfell and Colegrave, brokers to General Investors, dealt on behalf of discretionary clients and sold 6,000 ordinary at 158p each.

Clive Discount Holdings-Mr N. H. Chamberlain, a director, has sold 10,000 ordinary.

AGB Research-The non-beneficial interests of Mr G. B. Audley, a director, have been reduced by 20,000 ordinary.

The Brunner Investment Trust-Sir Marcus Worsley, a director, has sold 39,000 ordinary, reducing his holding to 977,396 and his interest as trustee is unchanged at 1,149,174.

Sunbeam Walsey-Mr J. O. Stanley, a director, has disposed of 10,000 ordinary, and two trusts of which he is trustee have disposed of a total of 30,000 ordinary.

May and Hassell-Mr Peter John Atley, a director, has acquired 15,000 non-beneficial ordinary, increasing non-beneficial holding to 407,406 shares (5.79 per cent) and 222,976 beneficial shares.

S and W Berisford-Mr A. J. Hodgson has increased his holding to 6,708 5 per cent cumulative preference shares (8.94 per cent). N. G. Hanson has increased his holding to 15,915 7½ per cent preference shares (21.22 per cent) and also holds 10,723 5 per cent cumulative preference shares (14.30 per cent).

Domestic appliance side leads TI recovery

THE STRENGTH of consumer demand in the past year had played a "major part" in the recent recovery of the TI Group, the annual meeting was told.

Profits generated by domestic appliance sales had increased from £18.9m to £22.7m, while there had been productivity improvements and an increase in market share in that sector, said Sir Brian Killett, who retired from the chair at the conclusion of the meeting.

On the group's performance as a whole, Sir Brian said it had pulled strongly out of the recession with pre-tax profits up from £4.7m to £18.3m. "The strength of consumer demand helped the domestic appliance business to perform even better and to contribute the biggest advance in profits."

Further good progress was made towards turning round the cycle business, the trading loss being reduced from £7m to £2.5m in 1983, but that business was expected to move into profit this year.

Sir Brian said important rationalisation moves were negotiated with the British Steel Corporation in relation to loss-making areas of tube making, but the time taken to obtain the necessary consents prevented those arrangements coming into effect until the end of the year or later.

Best of the year was the elimination of the £1.5m loss which had been felt in 1982. Mr R. E. Utiger has become chairman.

S. Jerome

A second half profit of £599,000 at S. Jerome & Sons (Holdings) has helped the company to produce a surplus of £447,000 for the year 1983. This compares with a profit of £22,000 previously.

There are below-the-line extraordinary debits of £386,000. Despite this, the directors are maintaining the final dividend at 1.985p for an unchanged net total of 2.689p, reflecting the return to a meaningful level of profitability and prospects for the current year.

Turnover for the year came to £13.26m, against £12.63m, and the profit before interest surged from £123,000 to £594,000, comprising textiles £469,000 (loss £29,000) and electronics £125,000 (£151,000). Interest charges were £147,000 (£100,000).

The tax charge is £197,000 (credit £144,000) and minorities take £7,000 (£3,000). Leaving a profit of £243,000 (£163,000). The extraordinary charges this time relate to losses and provisions on discontinued activities. Earnings are shown at 5.04p (3.38p).

Cramphorn

EXCEPTIONALLY good weather last autumn had a "material effect" on an improved trading result at US-listed Cramphorn, garden and pet supplies distributor, in the half year to end 1983.

The company turned a comparable £69,595 loss into a pre-tax profit of £23,779. The interim dividend has been doubled to 10p in order to reduce the disparity with the final. Last year's total was 25p.

Turnover was up from £4.79m to £5.5m for the period, and tax took £20,000 (nil). Earnings per share were 22.3p, against a 28.9p loss.

The board has under consideration a capital reorganisation involving a subdivision of shares and a scrip issue. Negotiations have been concluded for the acquisition of a long-term lease of a garden centre site at Bury St Edmunds. It is anticipated that this will open in the spring of next year.

Tysons slips

PROFITS OF Tysons (Contractors) fell from £360,899 to £212,655 in 1983, on turnover £3.42m down to £20.73m. The company constructs commercial and educational buildings in the Liverpool area.

After tax £20,762 (£44,033), net profit came out at £792,000 (£817,000), for earnings of 19.64p (43.44p). The dividend is lifted from 2.3282p to 2.5p.

Allied London Prop.

Pre-tax profits increased by 16 per cent to £1.01m in the half year to end of 1983 at Allied London Properties against £866,711.

The interim dividend is increased to 0.22p net against 0.2p adjusted for last year's scrip issue. The total last time was equivalent to 1.35p.

The directors of this property investor hope that the steady demand in the south east for commercial, industrial and residential properties will enable them to report further progress in profitability for the current year.

Stewart

PRE-TAX PROFITS of Stewart Enterprise Investment Company fell from £127,000 to £83,000 for the year to March 31, 1984, while shareholders' funds increase from £7.35m to £7.94m and the dividend is held at 0.4p net. Dividends and interest received totalled £314,000 (£216,000) and other income £28,000 (£40,000). Tax absorbed £33,000 (£47,000) for net income of £50,000 (£30,000) and earnings of 0.33p (0.51p) per 10p share.

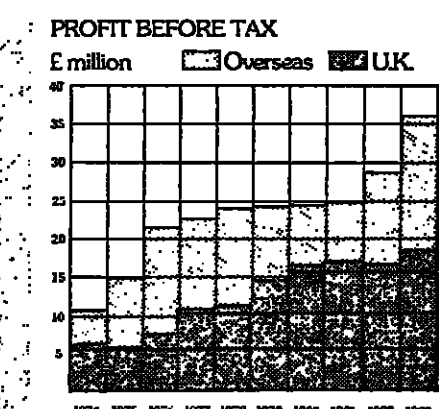
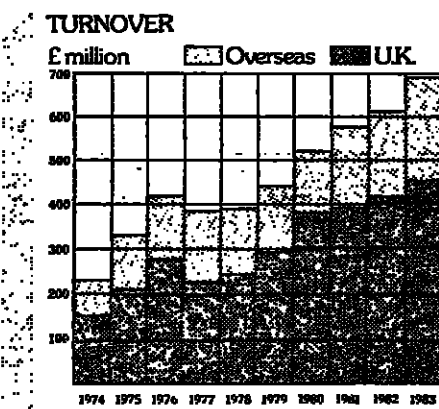
Taylor Woodrow records 26% increase in pre-tax profit

Mr. Dick Puttick, Chairman and Chief Executive, reports:

For the twenty-third year in succession our group activities have earned increased profits. This is a not unsatisfactory performance having regard to the very competitive conditions which prevail in this country and overseas.

For some years the construction industry has been passing through a difficult period with shortage of new work, giving rise to intense competition and a consequent narrowing of profit margins. However, as a result of careful attention to our estimating and tendering policies we ended the year with a good volume of work on hand to carry us into 1984 and this position has been maintained. Present indications point to some improvement in the amount of new work becoming available as evidenced by the number of enquiries we are receiving. This we find encouraging and we look to the challenges of the future with confidence.

Our group business is conducted through a range of diversified activities most of which made contributions to group profits. In this respect I would mention particularly our housing operations in this country and overseas which had a very good year and our property investments which are making increasing contributions to income as buildings are completed and let.



Accounts
The turnover of the group for 1983, including our share of related companies, was £696 million compared with £609 million for the previous year.

Profits before taxation were £35.9 million — an increase of 26% over the £28.5 million for 1982. A major contribution to the increase in profits came from housing activities, particularly in North America. It is noteworthy that gross rents have moved up from £18.8 million to £25.0 million for 1983, and that profits from property operations showed a significant increase to £6.1 million for the year.

After deduction of taxation and minority interests the balance remaining was £19.5 million compared with £16.1 million in 1982, and, after adding extraordinary items of £9.5 million, the profit available to Taylor Woodrow plc totalled £29.0 million.

The extraordinary items included a credit for deferred taxation of £8.6 million, arising from the budget changes to be made in future corporation tax rates.

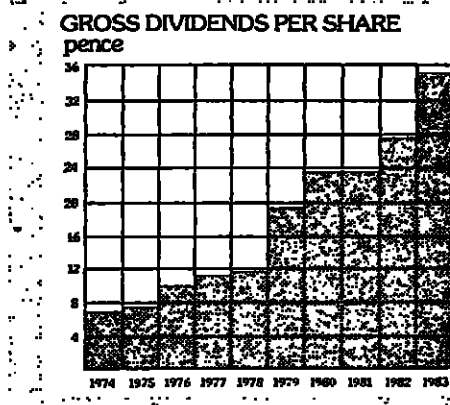
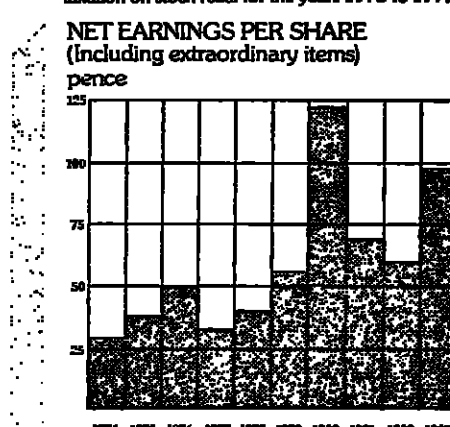
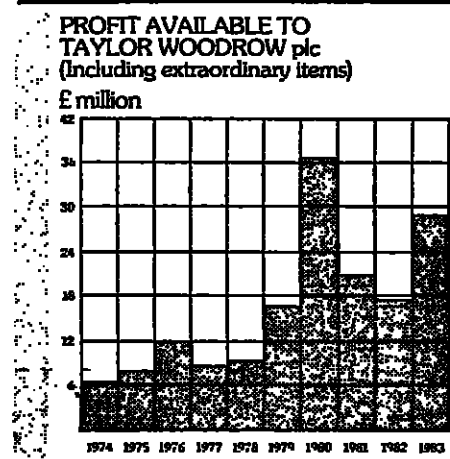
The board is recommending a final dividend of 19.0p per share which, together with the interim of 5.5p per share, makes a total payment of 24.5p per share for the year compared with 19.5p in 1982.

The group continued to achieve a positive cash flow in 1983 of £11.0 million and at the end of the year liquid funds stood at £69.0 million.

Properties were revalued at the end of 1983 and a net surplus of £9.1 million was credited to revaluation reserves. Combined with retained profits and the surplus on revaluation, shareholders' funds now stand at £302.1 million, equivalent to 1023p per share.

The board recommends the capitalisation of part of the reserves of the company and the application of such to paying up in full ordinary shares for distribution to shareholders on the basis of one new share for every share held.

As always, I would emphasise the long-term nature of many of our business operations and the need to judge performance and results of the group over a period of years.



Generally
The facilities and resources we have developed over the years by our wealth-creating free enterprise efforts have enabled us to help improve quality of life worldwide and provide what we believe is a challenging, exciting, enjoyable worthwhile career for our many team members. We are indeed fortunate in Taylor Woodrow to have such fine teams of competent people who are dedicated to the pursuit of excellence and who are always so ready to meet the challenges of these very competitive times for our industry.

May I thank not only our clients for the valued orders they place with us but also the variety of professional people, suppliers and subcontractors for the assistance they provide in the carrying out of these works.

Experience, expertise and teamwork — worldwide



Glynwed's record profits helped by UK recovery

Financial Highlights £'000	1983	1982
Turnover	487,198	444,301
Operating profit	29,622	23,735
Profit before taxation	21,188	13,733
Earnings for the period	14,235	10,811
Ordinary dividends	6,573	6,153
Profit retained	3,000	1,128
Operating assets employed	192,164	201,436
Earnings per ordinary share		
- net basis	17.00p	14.58p
- nil distribution basis	15.52p	19.49p
Dividends per ordinary share	7.85p	7.35p

To the Secretary, Glynwed International plc, Headland House, New Coventry Road, Sheldon, Birmingham B26 3AZ.

Please send me a copy of the 1983 Report & Accounts.

Name

Address

FT



Highlights from the statement of the Chairman, Sir Leslie Fletcher, to the Shareholders of Glynwed International plc:

■ Group pre-tax profits reached a record £21,188 million compared with £13,733 million, mostly due to a marked improvement in UK activity.

■ The UK figures reflect the benefits of re-organisation carried out at no little cost both in financial and human terms over the past three to four years.

■ Group will continue to seek investment opportunities both in the UK and overseas, thus ensuring an international spread of activities as a safeguard against set-backs in local economies.

■ VAT imposition on home improvements could have a far-reaching adverse effect on revitalising the major housing stock of the nation.

■ Total dividend for 1983 is 7.85p per share compared with 7.35p per share in 1982.

■ Confident about the sustained level of activity in the UK, certainly over the next few months.

UK COMPANY NEWS

Unilever profits up £29m in first quarter

COMBINED first quarter 1984 taxable profits of Unilever, the Anglo-Dutch foods, detergents and toiletries group, increased by £29m to £186m from turnover up £361m to £2,555m.

In Europe both volume and profits were significantly higher than last year. Within the consumer groups, edible fats, frozen products, other food and drinks and personal products did much better, the directors say, than in 1983. Results of detergents were down on last year, while all industrial businesses had improved figures.

Pre-tax profits for the whole of 1983 were £768m (£725m) and turnover amounted to £13,592m (£13,226m).

In North America, Lever Bros invested heavily in launch expenses on new products and consequently their first quarter contribution was lower. As a result while the other major U.S. businesses had a good third quarter, total North American figures were down on 1983.

The directors say that continuing poor economic conditions and other adverse factors in the group's main areas of operation, still affect UAC International sales volume, and results showed a fall.

In the other businesses throughout the world, total sales and profits were well up on last year and they included a good contribution from expanding plantations interests.

The group said later that the investment by Lever Bros is a reflection of Unilever's confidence in the company's performance in the U.S. Lever is currently carrying out the national launch of its Dimension shampoo and conditioner. Its aim is to take the number one spot in the beauty shampoo market, an important part, directors said, of the \$30m hair care business in the U.S.

Elsewhere, there was "a clear improvement" in profitability in European operations, and although Nigeria remained a

problem area, there were some strong performances elsewhere overseas.

Group operating profit amounted to £190m for the quarter, against £150m, associates share was £11m (same), investment income £12m, and other interest received and similar income added £20m (£30m). The pre-tax figure was after interest payable and similar charges, unchanged at £56m.

Tax charge was £90m, compared with £74, there was a previous year's tax adjustment credit of £1m (£1m debit), and minorities and preference dividends took £7m (same). Including an exchange gain this time of £1m the attributable balance came through £16m higher at £21m.

Results for the quarter, and the comparative figures, were translated at the rates of exchange ruling at the end of 1983, the directors point out. An exception was made for the re-

HIGHLIGHTS

Mercantile House is buying up another discount house and 29.9 per cent of Laing & Cruickshank, the London stockbroker. Lex looks at the implications of the move before turning its attention to the offer by Mr Maxwell's BPCC for Bishopsgate Trust which was announced yesterday together with the publication of the publishing group's annual report. Unilever reported first quarter figures yesterday and despite heavy launch costs of a new shampoo in the U.S. pre-tax profits managed to rise by 19 per cent to £186m. Finally the column comments on the weakness in the U.S. bond market and its impact on sentiment in London.

been amended in line with the changes.

The directors add that, in line with a change made in the 1983 accounts, operating profits are affected by the reclassification of exchange differences arising on cash and borrowings, which are included as interest receivable, or payable as appropriate. Figures for 1983 have been restated on a comparable basis. See Lex

in paper last year. Pre-tax profits have doubled, earnings per share are up 54 per cent on the increased capital, and the main target of the purchase, RW's electronics arm, Welwyn, has fitted well into the existing operations. But the real surprise is the news that Crystalate will be looking for at least £25m if it goes ahead as expected with plans to sell RW's fine china business. Such a deal would then generate far more cash than anticipated for reinvesting in the electronics businesses, possibly for further expansion into Europe and almost certainly for further acquisitions. The outlook for the electronics companies is good, though growth at the biggest subsidiary, Besson, was held back by teething troubles with new machinery and by component delivery delays. For the year, 56m pre-tax looks within reach, putting the shares, up 1p at 271p, on a prospective p/e of 26, on a fully diluted basis, assuming a 45 per cent tax charge.

A buoyant Christmas season and Worcester Royal Porcelain and Spode each show improved profitability reflecting the past investment in new designs and modern production plant. Both operations have also benefited from increased penetration of the U.S. market.

The industrial ceramics company increased its profitability. After tax £1.34m (£702,000), extraordinary credit £279,000 and minorities £16,000, the net attributable profit came out at £1.73m (£707,000). Earnings are shown at 7.21p (4.69p) basic and at 5.19p (4.1p) fully diluted. In the year ended September 30 1983 sales totalled nearly £34m and profit before tax was £3.3m. The extraordinary item is a credit for deferred tax to reflect the future corporation tax rates proposed in the Budget.

Welwyn obtained excellent results especially from its microelectronics division although the resistor and strain measurement businesses also performed well. The china companies enjoyed

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comment
Royal Worcester has turned out to be an even better buy than Crystalate dared hope for when it made its acquisition for £24m

comment
The sources of Readicut's profit resurgence are a touch mysterious, since the group has postponed publication of its usual divisional breakdown until the Report and Accounts, with Mr Fox's stake now at 17 per cent, the board prefers to keep its cards close to its chest. But although group volume is up 9 per cent on the year, the bulk of the improvement results from surgery, discontinued businesses alone account for £1.2m of the turn-around at the pre-tax level. Year-end net borrowings are £51m lower, at £2.1m, and now stand at 41 per cent of shareholders' funds; property sales fetched £1m last year, and there is still some £1m to come. Earning disappointments—something of a Readicut speciality of late—this year's pre-tax might reach £41m. Five years ago the figure was double that, but rug kits are down to 10 per cent of turnover, and falling; if the group is to regain its former size, it will be in quite a different form. At 35p—up 3p—the shares are on a prospective yield of 8, assuming an unchanged 30 per cent tax rate.

Readicut pays 1.2p on strong recovery

HERALDING what the directors describe as a new era of profitability, Readicut International, manufacturer of rug kits and specialist textile products, swung round from losses of £1.52m to pre-tax profits of £3.77m in the year to March 31, 1984, and is paying a 1.2p net dividend, compared with a nominal 0.1p for the last three years.

At mid-term the recovery was from a deficit of £1.89m to profits of £448,000 and the directors said then they were hopeful of eliminating loss-making activities and disposing of surplus properties within the group.

They now say that, as over the past four years management has concentrated on restructuring the group into an efficient entity, the core strength now rests firmly in modern and competitive manufacturing facilities.

Textiles and textiles reported significant increases in turnover and profits during the year under review and the two carpet manufacturing companies achieved "excellent" results.

In handicrafts, restructuring the rug kit undertakings continued throughout the 12 months with a much improved rate of return in the second half; a period which also saw losses on yarns and fibres slowing.

As regards the current year they say the momentum of recovery in handicrafts will be maintained by operating from a much lower cost base, further economies in areas of order processing and advertising, and extending the product range.

comment
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Work shortage cuts Whessoe profit to £1.12m midway

ALL MAIN sub-groups of Whessoe, the Darlington-based engineering concern, suffered the effects of an unexpectedly severe and continuing shortage of new work, which left the total taxable profit at £1.12m for the half year ended March 31, 1984, less than half the comparative figure of £2.58m.

Through some increase in the group's profit is expected for the second half, the full year's result is now likely to be appreciably lower than last year's £6.88m.

After tax of £862,000 compared with £1.28m, earnings per 25p share are given as down from 8.5p to 3.5p, but the interim dividend payment is maintained at 2.5p net absorbing £481,357 (same).

Turnover for the 12 months slipped to £32.42m, against £52.97m, and with pre-tax profits were split as to: heavy engineering £25.27m (£24.18m) and £1.65m (£1.58m); high pressure pipework £23.97m (£25.23m) and £595,000 loss (£562,000 profit); light engineering £2.18m (£2.58m) and £239,000 (£491,000).

Heavy engineering in the UK made good profits on completed contracts, directors state, but these were reduced by low activity mainly at the Darlington works. Whessoe Ireland, however, achieved rather better activity and operated profitably.

The Aiton companies in the UK and Australia remained busy, although contract completions and profits were low. The sub-group's loss for the six months was substantially that of Aiton Power, the Canadian sub-

sidary, which suffered acute work shortage throughout the period.

comment
The combination of poor first-half figures and a gloomy statement coming so soon after the chairman's more hopeful comments at the AGM clipped nearly a fifth off Whessoe's share price. The current shortage of work for power stations is the main problem, affecting both the heavy engineering activities and the high pressure pipework businesses. In Canada, where the nuclear power station business is in an advanced state of inertia, the position is particularly acute, accounting for most of the near £50m losses by the Aiton subsidiaries. These poor results have triggered off a major in-house review of prospects in the area—and this could lead to a fundamental rationalisation of the business. A contraction of capacity already underway at home in Darlington given that the next nuclear power station contracts are at least 18 months away. All this confirms the gloomy short-term prospects at least Whessoe has a strong balance-sheet to help it bridge the trough. Work-in-hand should result in around £6m pre-tax for the full year, which will include about £0.5m associates. As a full tax charge the prospective p/e is 7.5 at 88p, down 20p—a rating which takes account of the company's mercurial track record and the uncertainties of the outcome of the arbitration proceedings over the hefty Qatar claim.

Dencora expands to £1.04m

Pre-tax profits of Dencora, property investment and housebuilding company quoted on the USM, surged from £460,000 to £1.04m for the year ended December 31, 1983 on turnover up £2.79m to £7.93m. There is again no dividend.

Profits included other operating income of £1.42m (£1.05m) and interest received of £19,000 (£4,000), but were after administration expenses, up from £397,000 to £1.29m, and interest payable of £958,000, against £892,000.

There was a tax credit of £16,000, compared with a £8,000 charge, and extraordinary credits of £5,000 (£72,000). Earnings per 25p share were much higher at 8.4p against 5.6p previously.

The housebuilding division had a successful year, directors say, with 120 houses sold, and the current year should show an improvement. They add that the company has sufficient land bank stock for the next two to three years for development in this field.

Commenting on the current year, the directors say it is proving to be very busy with a number of commercial schemes being developed with several pre-lets. The industrial portfolio is expanding in line with group policy and lettings are encouraging.

Group revenue should be boosted by several rent reviews, to be agreed this year, and the asset base, directors state, should increase considerably in view of the number of developments which will be completed and let during the year.

The group's total property assets are now valued at £23.2m (£18.7m).

All commercial properties developed during 1983 have been retained in the investment portfolio.

Crystalate doubles profit and lifts interim

INCLUDING FOUR months results from the Royal Worcester acquisition, profits of Crystalate Holdings for the six months ended March 31 1984 have doubled to £2.8m pre-tax, and the interim dividend is lifted from 1.25p to 47p net.

The second half covers a quiet seasonal period for the fine china business, but the directors expect the results to show an improvement over those now reported. This will especially reflect continued progress from all electronics activities.

In the period, sales trebled to £34.61m and the operating profit surged from £1.43m to £3.33m analysed as follows, in £000's:—electronics £22.89m (£11.451) and £2,227 (£1,426); fine china £10,899 and £1,011 and industrial ceramics £816 and £90. The fine china and industrial ceramics businesses were acquired through the purchase of Royal Worcester, along with Welwyn Electronics.

The directors continue to assess the future of the china

and industrial ceramics activities, both of which display encouraging trading prospects, and the possible attraction of disposal. A number of parties have expressed interest in acquiring these businesses.

The original Crystalate electronics activities have performed consistently, with the Greendale and Osborne operations recording further improvement and Eboneston providing a further useful contribution. Besson remains the major contributor but encountered predicted but temporary problems with new products and assembly techniques.

A new business, Crystalate CCB SA, near Paris, was acquired to provide a further interest in the French defence and telecommunications industries.

Welwyn obtained excellent results especially from its microelectronics division although the resistor and strain measurement businesses also performed well. The china companies enjoyed

a buoyant Christmas season and Worcester Royal Porcelain and Spode each show improved profitability reflecting the past investment in new designs and modern production plant. Both operations have also benefited from increased penetration of the U.S. market.

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Brikat USM placing gives market value of £6.6m

Brikat, which produces the Pegasus brand of business accounting software for microcomputers is coming to the USM by way of a placing of 1.2m shares at 140p per share giving a market value of £6.6m.

Laing & Cruickshank are brokers to the issue which will raise £203,000 for the company. The funds will be used in part to finance the group's expansion in the U.S. where it has started selling a U.S. adapted version of the Pegasus software called Osprey. Pegasus has 15 per cent of the £12m UK business accounting software market.

Brikat has a systems distribution and maintenance business

called HB Computers which contributes only minimally to profits but the directors say the business gives them an important feedback on customer preferences and needs.

It has two other subsidiaries, Days, which sells stationary and office equipment, and Colton, a printing company. Together, they contributed £326,000 of the total £1.88m pre-tax profits. Brikat directors forecast pre-tax profits of not less than £625,000 for the current year which puts the shares at the placing price on a prospective p/e of 20.3 based on a 54 per cent tax charge, and a 2 per cent yield.

Stat-Plus to get USM quote via share tender

Laurence Prust is bringing the law and commercial stationery supplier, Stat-Plus, to the USM by the unusual method of a placing of 1.43m shares by tender.

Several institutions were invited to tender at a minimum tender price of 80p. The offer was oversubscribed and a striking price of 110p per share has been decided, giving the company a market capitalisation of £7.9m.

Mr Trevor Painting and Mr Derek Bird, joint managing directors, and Mr Bird's wife Patricia have built up the

business, located in the South and South East, supplying stationery with a particular regard to the needs of the legal profession. The distribution centre is in Collier's Wood, and Stat-Plus provides an overnight supply service for law firms and other stationery.

The directors hope to expand geographically, probably through the acquisition of small stationery businesses for which a quotation will give them greater flexibility. They expect to fund the major part of such expansion from retained profits and depreciation.

The company has grown rapidly and in 1983 made pre-tax profits of £700,000 on turnover of £3.55m. In each of the three years to December 1983, return on trading capital employed exceeded 100 per cent. Sales in the first three months of 1984 were 30 per cent higher than in the first quarter of 1983.

The p/e on a 35 per cent tax charge is 17.2 based on the 110p striking price. The prospective yield is 2.3 per cent. Dealings should begin on May 21.

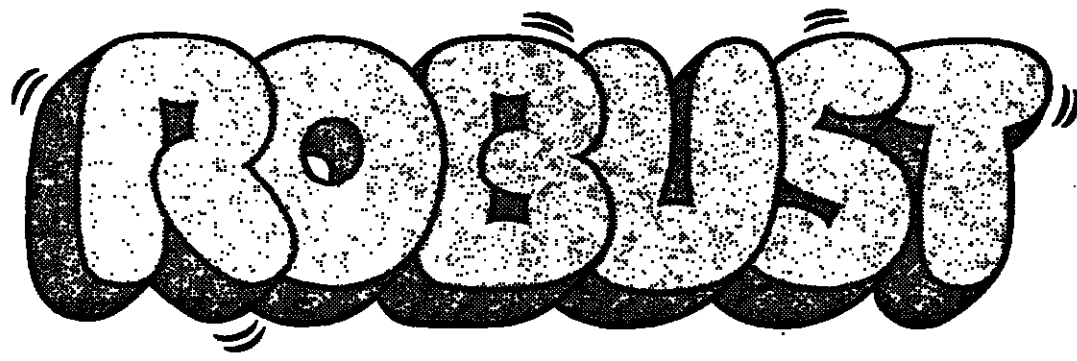


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Telephone: Rickmansworth (08397) 71211. Telex: 922664



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New Issue

May 8, 1984

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Chartered by Act of Congress

SHORT TERM FLOATING RATE NOTES

\$200,000,000

Dated May 10, 1984
Price 100%

Due November 8, 1984
Series 11-84

The interest rate on the Notes will be subject to weekly adjustment on the calendar day following each auction of 91-day Treasury bills, and will be equal to the "91-Day Treasury Bill Rate" (expressed on a bond equivalent basis); interest on the Notes is paid at maturity and accrues from May 10, 1984. The Notes are definitive securities and will be issued only in bearer form.

These Notes are the obligations of the Student Loan Marketing Association, a U.S. government-chartered, private corporation established by the Higher Education Act of 1965, and are not obligations of or guaranteed by the United States. The Notes are legal for investment by savings banks, insurance companies, trustees and other fiduciaries under the law of many states.

This offering is made by the Student Loan Marketing Association with the assistance of a nationwide Selling Group of recognized dealers in securities.

Mitchell A. Johnson
Vice President and Fiscal Agent

Cynthia S. Cola
Manager, Short Term Liabilities

For more details, contact the Fiscal Agency Department at 800-321-7179

Student Loan Marketing Association
1050 Thomas Jefferson Street, N.W. Washington, D.C. 20007

This announcement appears as a matter of record only.

BIDS AND DEALS

600 Group
in £14.3m
U.S. sale
to Rexnord

THE 600 Group, the machine tools and material handling equipment maker, has agreed to sell its 28.7 per cent stake in Clausing Corporation, to Rexnord, a Milwaukee, Wisconsin-based machine and components manufacturer for \$19.75m (£14.3m).

The 600 share price rose 13p yesterday to 93p. Rexnord will pay \$12.50 cash per share for the holding in Clausing which was built up by the 600 Group from an initial 20.6 per cent stake bought in September 1980.

The 600 Group valued its Clausing holding at £5.68m in its latest accounts at March 31 1983 and its share in net profits before tax and extraordinary items was £1.25m.

The UK group said it will maintain its close association with Clausing through a partnership in Clausing Machine Tools, which distributes certain 600 Group and other machine tool products in the U.S. It will use the cash from the sale to expand its business and repay borrowings.

Mercantile House
reaches agreement on
two major purchases

Mercantile House has reached agreement to acquire Jessel, Toyne and Gillett, and 29.9 per cent of Laing and Cruickshank.

These two acquisitions represent further important steps towards Mercantile's objective of building an organisation that can play a significant part in the development of London markets for securities and related financial instruments, the directors state.

Jessel offer terms are three Mercantile ordinary shares for every 10 Jessel ordinary shares. As an alternative holders can elect to receive 110p nominal amount in floating rate loan notes 1989 of Mercantile for each Jessel share.

Floating rate notes will only be issued in respect of a maximum of 50 per cent of the ordinary shares in Jessel.

Accepting holders who elect for up to 50 per cent of their ordinary will receive the loan note for all such shares. To the extent that holders elect for the loan note alternative in respect of more than 50 per cent, the

amount of each election for more than 50 per cent comprised in an acceptance will be scaled down pro-rata to the amount of the loan note alternative remaining available and ordinary shares issued in respect of the balance.

Interest on the floating rate loan notes will be at the sixth month sterling LIBOR.

The terms of the preference offer are 80p in cash for each Jessel 3.75 per cent redeemable cumulative preference share.

Full acceptance of share offer would involve the issue of 6,412,258 new Mercantile House ordinary representing 7.9 per cent of the enlarged capital.

Hmac Industries

Hmac Industries Inc, a subsidiary of Hanson Trust, has extended its tender offer for the common shares of U.S. Industries Inc at \$23 net per share.

The extended offer will expire at midnight New York City time on May 23 unless further extended. The offer has been scheduled to expire on May 11.

RTZ sells
software
division
for £2.5m

By Alexander Nicol

RTZ Computer Services, part of the Rio Tinto-Zinc mining group, has ended a marketing agreement with U.S. software manufacturer McCormack & Dodge by selling its software division to the American company for about £2.5m.

The Bristol-based division and its 76 employees yesterday joined McCormack & Dodge, itself a subsidiary of Dun & Bradstreet which last week announced a \$71m agreed bid for Britain's Datastream.

Officials of the two companies said yesterday that there had been a conflict between McCormack & Dodge's desire to build up a long-term market share for its software products and RTZ's focus on the nearer-term profitability of agency business.

Mr Roger Miller, managing director of RTZ's surviving computer services division with 56 employees, said it would continue its agency services, including revenue growth faster than the 35 per cent to 40 per cent annual rate at which the software market is expanding. "It is our strategy to have the largest market share. Then you can call the tune in your own business segment," he said.

The price paid to RTZ Computer Services was split equally between a new subsidiary of the software division and goodwill plus product and marketing values.

Mr McCormack & Dodge, which is forming the newly-acquired division into a new subsidiary, specialises in producing software for IBM mainframe computers, and in adapting it for ICL mainframes.

Mr James McCormack, chairman of the U.S. company, said that by rapid increases in sales force and development spending, McCormack & Dodge could achieve revenue growth faster than the 35 per cent to 40 per cent annual rate at which the software market is expanding. "It is our strategy to have the largest market share. Then you can call the tune in your own business segment," he said.

The price paid to RTZ Computer Services was split equally between a new subsidiary of the software division and goodwill plus product and marketing values.

Ladbroke Group

Ladbroke Group has acquired 75 per cent of shares in Oliviers (UK) for \$564,150 (subject to adjustment). The consideration has been satisfied by £168,000 in cash and £195,220 in the allotment of 54,731 fully-paid 10p ordinary shares of Ladbroke. The balance will be satisfied by the allotment in 1985 of further Ladbroke shares.

The 54,731 Ladbroke shares will not qualify for the final dividend to be paid next month. Oliviers (UK), a Luton based private company, has expanded rapidly since 1982 and now has 20 stores in England and Scotland in high street locations.

Mr Ian MacKeech, managing director of Oliviers retains a 25 per cent shareholding and will lead the company's expansion programme.

Fado Investments

Fado Investments has acquired more than 5 per cent of the issued capital of Oliviers Paper Mills, an associate of Bell Engineering Services and other UK manufacturing companies.

Tikkurila Varitehtaat Oy purchased on May 11 a further 450,000 ordinary shares in Ond Macpherson at 125p, and now owns 2.35m ordinary (13 per cent).

Institutions accept BPCC
offer for Bishopsgate

THE BOARDS of British Printing and Communication Corporation and Bishopsgate Trust have agreed terms for the acquisition by BPCC of Bishopsgate.

Irrevocable undertakings to accept the offer have been received from Equitable Life Assurance, Prudential Assurance and Standard Life Assurance in respect of a total of 12.07m ordinary stock units—51.3 per cent of those in issue.

Consideration under the offer will be new BPCC ordinary (taken at a price of 205p) to the value of 110,053 per cent of the net asset value per Bishopsgate ordinary stock unit, subject to a maximum net asset value of £223.4p. If the net asset value is over £223p but does not exceed £230p, an amount in cash equal to 102 per cent of the excess will be paid. To the extent that the value exceeds £230p, an amount equal to 100 per cent of the excess will be paid (out of BPCC resources) for each Bishopsgate ordinary unit more.

Calculation of the value will be made as at the close of business on the date on which the offer is accepted, or if the offer is not accepted, as at the close of business on the date of the offer.

The maximum number of new BPCC ordinary which may be required to be issued, assuming the maximum value of £233.4p and full acceptance of the offer, is some 28.3m.

Under the irrevocable undertakings, stockholders have undertaken to take BPCC ordinary and not to elect for the cash alternative in respect of 8.03m Bishopsgate ordinary.

Holders of Bishopsgate ordinary will be entitled to the second interim dividend of 2.3p in respect of the year to March 31 1984.

The new BPCC ordinary will not rank for the final dividend payable on existing BPCC ordinary in respect of 1983. It is proposed that existing

This would represent some 19.2 per cent of the enlarged ordinary capital of BPCC.

On the basis of full acceptance of the offer, the estimated current value of some 203.1p, a valuation of some £52.7m is placed on the whole of the Bishopsgate ordinary.

Hill Samuel, as principals, will make a separate cash offer to purchase, or procure purchasers for, all or any of the new BPCC ordinary to which holders of Bishopsgate ordinary stock units will become entitled at 190p per share, free of all expenses.

Bishopsgate ordinary stockholders who elect the cash alternative will therefore receive cash equity to 102 per cent of the value up to a value of 230p, together with 100 per cent of the excess value over 230p.

Under the irrevocable undertakings, stockholders have undertaken to take BPCC ordinary and not to elect for the cash alternative in respect of 8.03m Bishopsgate ordinary.

Holders of Bishopsgate ordinary will be entitled to the second interim dividend of 2.3p in respect of the year to March 31 1984.

The new BPCC ordinary will not rank for the final dividend payable on existing BPCC ordinary in respect of 1983. It is proposed that existing

holders of BPCC ordinary shall be given the opportunity to purchase for cash the new BPCC ordinary being issued under the offer, at the underwritten price of 190p, to the extent that the holders of Bishopsgate ordinary elect to receive the cash alternative.

Maximum new BPCC ordinary for which a shareholder may apply will be limited to eight new BPCC ordinary for every 11 BPCC ordinary of which he is the registered holder today.

Pergamon Press is acting as sub-underwriter in respect of some £10m of the underwritten new ordinary, but will not be taking up any of its entitlement under this offer to BPCC shareholders, in order to give other shareholders an opportunity to increase their proportionate holding in BPCC.

Mr Robert Maxwell, who owns 927,943 ordinary of BPCC in his personal capacity, will be applying for his entitlement.

An offer for the preference of Bishopsgate will be made on the basis of £100 cash for every £100 nominal stock.

Bishopsgate has outstanding £4m 7p cent to 17p cent stepped interest debenture stock 2023. Appropriate proposals will be put to holders of stock for its cancellation at a price of not less than £118 per £100 nominal, together with accrued interest.

Wm. Leech
says bid
by Beazer
is 'offensive'

THE BOARD of William Leech, housebuilding and development concern, considers the bid from C. H. Beazer (Holdings), property developer, to be "offensive" to the company and in no way represents the interests of its shareholders, who are strongly advised to continue to take no action.

It is the firm view of the Leech board and its advisers that the offer represents a gross undervaluation of the company and its potential.

Mr J. R. Adamson, chairman of Leech, yesterday received a visit from Mr B. C. Beazer, chairman and managing director of the suitor.

The board's response to Beazer's approach will be issued to Leech shareholders following receipt of the offer document.

The Leech directors and their families will not be accepting the offer in respect of their holding, and Mr W. C. Leech, the president, who has a power of veto over the sale of Leech shares held by the William Leech Foundation, has informed the board that he is not in favour of the Foundation accepting the offer.

Leech has been notified that Beazer holds 1.92m of its shares, while Poco Properties no longer owns 1.02m Leech ordinary.

BIDS AND DEALS IN BRIEF

Lincroft Kilgour, the cloth merchandising and menswear group, has sold its holding of 1.49m shares — 12.42 per cent of the equity — to Richards & Co, with a number of institutional and private investors at about the market price of 34.5p.

The shares were placed by Richards & Co, a company with a number of institutional and private investors at about the market price of 34.5p. Lincroft bought 1.45m of the shares in two tranches in late 1983 and early 1984 at about 20p each.

Mr Tony Holland, Lincroft chairman, said: "It was an investment which had changed rather dramatically so we sold. Our investment policy puts an emphasis on capital growth."

The Merchant Navy Officers Pension Fund has made an agreed offer for Oil and Gas Production.

It values OAGP at £15m and the price of £3.5p per share represents an increase of more than 54 per cent over the closing middle market price of 41p on November 21 1983, the day before the OAGP directors announced they were investigating alternatives to maximise the company's share value.

Robert Moss, maker of plastic moulded injections, has acquired United Castings of Gillingford for £100,000, satisfied by the issue of 107,524 ordinary shares.

Unicap supplies small plastic components, and its range will be transferred to and absorbed into the Moss operation at Kidlington. Moss is expected to benefit to the extent of some £180,000 additional turnover annually and around £30,000 more profit.

Westall Richardson, the privately-owned Sheffield cutlery company which is now the world's largest producer of kitchen knives, has acquired Eford Plastics, West Yorkshire, for an undisclosed sum.

The following proposed mergers are not being referred to the Monopolies and Mergers Commission: Woolworth Hold-

ings and Comet Group; Paragosa Holdings; SA and Group Brussels; Lambert SA and substantial minority in Henry Auerbach Holdings; Suter and Francis Industries.

Fairley Holdings has acquired a 35 per cent shareholding in Wycomp for a total consideration of £210,000.

HyComp is a specialist in the preparation and supply of microchips and the manufacture of high technology microchip-based components used in hybrid electronic systems.

The company also supplies surface mounted devices.

AGB Research has purchased 60 per cent of Medical Direct Mail Organisation from the Forton Group for a consideration wholly in cash. MDMO specialises in selective direct mail and marketing systems for the health care industry.

TR Energy has agreed to acquire certain oil and gas interests from the BSC Pension Fund Trustees, principally the convertible subordinate debentures of Maynard Oil, Crystal Oil, and Kirby Exploration.

The deal takes effect from May 11. The consideration is \$1,000m (£679m), to be satisfied by the issue of 1.72m shares in TR Energy (7.3 per cent of the enlarged share capital).

The transaction is expected to take place by June 15. The annual income before tax from these holdings is around \$138,000.

Westall Richardson, the privately-owned Sheffield cutlery company which is now the world's largest producer of kitchen knives, has acquired Eford Plastics, West Yorkshire, for an undisclosed sum.

The takeover will allow the company to export imports of knife handles from Europe. The 60 jobs at Eford Plastics will be unaffected, and Mr Maurice Eford, managing director, joins the main Westall Richardson board.

Mr Bryan Upton, Westall Richardson managing director, said the acquisition was part of a major expansion programme by his company to meet rising export sales.

Fennine Resources says its U.S. subsidiary had agreed to purchase a block of petroleum-related and real estate assets

located in and around Chanute, Kansas, belonging to Mr Jerry L. Phillips.

The assets have an appraised or mutually agreed value of approximately \$8m carrying existing mortgages and loans of \$3.05m. Fennine is paying \$1.25m cash for the complete portfolio.

McCorquodale's offer for Avon Valley Investments has been accepted in full. The principal subsidiary of Avon Valley Investments is Varnicoat of Pershore. The acquisition represents an initial entry by McCorquodale into the heat set web and gravure colour markets.

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Over-the-Counter Market

1983-84	Company	Price	Change	Gross Yield	P/E	Fully
High	Low	div.(p)	%	Actual		Actual
142	120	Ass. Brit. Ind. Ord.	132	—	6.4	7.7
158	117	Ass. Brit. Ind. CULS	144	—	30.0	6.9
78	—	Bray Technologies	61	—	6.1	10.0
38	21	Armstrong & Rhodes	33	—	10.0	17.4
330	141	Bardon Hill	328	—	7.2	13.4
53	33	Bray Technologies	53	—	2.5	6.2
201	197	CCL Ordinary	201	—	5.0	2.5
152	121	CCL 11pc Conv Pref	152	—	15.7	10.3
840	100	Carborundum Abrasives	330	—	5.7	1.1
249	100	Cinco Group	103	—	17.8	17.0
69	45	Deborah Services	62	—	6.0	8.8
222	75	Frank Horrell	222	—	6.8	36.4
203	75	Frank Horrell Pr Ord	201	—	8.7	4.3
99	28	Frederick Parker	29	—	4.3	14.6
38	22	Ganga Fair	35	—	7.3	14.6
80	46	Ind. Pradial	50	—	13.8	17.2
2185	2130	Isla New Fully Pd Ord	2185	—	150.0	6.9
360	120	Isla New Pref	365	—	15.7	7
124	61	Jackson Group	123	—	4.3	3.7
255	169	James Burroughs	250	—	11.4	4.6
428	275	Minthouse Holding NV	424	—	4.2	1.0
176	97	Robert Jenkins	87	—	20.0	20.8
74	58	Scruttons "A"	56	—	5.7	10.2
120	81	Torday & Cardale	72	—	8.8	8.2
444	385	Travlin Holdings	437	—	—	8.9
26	17	Unicof Holdings	18	—	1.0	5.5
82	55	Walker Alexander	83	—	5.8	8.2
278	236	W. S. Yeates	245	—	17.1	7.0

Letters of credit outstanding \$ 236,762

Republic National Bank of New York

A subsidiary of REPUBLIC NEW YORK CORPORATION

Consolidated Statement of Condition

(In Thousands)

March 31, 1984

ASSETS

Cash and demand accounts	\$ 130,796
Interest bearing deposits with banks	4,157,518
Precious metals	175,156
Investment securities	1,641,574
Federal funds sold and securities purchased under agreements to resell	200,000
Loans, net of unearned income	2,351,380
Allowance for possible loan losses	(49,210)
Loans (net)	2,302,170
Customers' liability under acceptances	735,774
Bank premises and equipment	113,227
Accrued interest receivable	178,447
Other assets	121,300
	\$9,755,962

LIABILITIES AND STOCKHOLDER'S EQUITY

Deposits	\$7,348,508
Short-term borrowings	366,582
Acceptances outstanding	745,144
Accrued interest payable	190,896
Other liabilities	98,883

STOCKHOLDER'S EQUITY

Common stock	355,000
Surplus	478,996
Retained earnings	171,953
Total stockholder's equity	1,005,949
	\$9,755,962

The portion of the investment in precious metals not hedged by forward sales was \$4.0 million at March 31, 1984.

REPUBLIC NEW YORK CORPORATION

SUMMARY OF RESULTS

(In Thousands Except Per Share Data)

	1984	1983
Net income	\$22,802	\$19,207
Net income per common share	\$1.38	\$1.41
Dividends declared	.40	.36

27th Avenue at 40th Street, New York, New York 10018 (31 offices in Manhattan, Bronx, Brooklyn, Queens, & Suffolk County)

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A subsidiary of TRADE DEVELOPMENT BANK HOLDING S.A. Luxembourg

Application has been made to the Council of The Stock Exchange for the grant of permission to deal on the Unlisted Securities Market in all of the ordinary share capital of the Company. It is emphasised that no application has been made for these securities to be admitted to listing. A proportion of the shares being placed is available to the public through the Market.

This advertisement is issued in compliance with the requirements of the Council of The Stock Exchange.

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OSPREY BUSINESS SERVICES

BRIKAT GROUP plc

(Incorporated in England under the Companies Acts 1948 to 1987. No. 1135577)

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by

LAING & CRUICKSHANK

Incorporating McAnally, Montgomery & Co.

or

1,206,500 Ordinary Shares of 5p each

at 140p per share payable in full on application

The Ordinary Shares which are the subject of this Placing rank in full for all dividends hereafter declared or paid on the ordinary share capital of the Company.

Share Capital

Authorised £300,000	In 6,000,000 Ordinary Shares of 5p each	Issued and to be issued fully paid £235,000
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The Group's main business is the production and distribution of its own packaged business accounting software and the distribution and maintenance of micro-computer systems. The software is marketed in the U.K. under the name PELAGUS. Related to these activities, the Group sells computer stationery and consumables. The Group also prints and supplies general stationery and distributes office equipment.

Further particulars of Brikat Group plc are available in the Extel Statistical Services and copies of the Prospectus may be obtained during business hours on any weekday (Saturdays and public holidays excepted) up to and including 31st May 1984 from:-

LAING & CRUICKSHANK
Incorporating McAnally, Montgomery & Co.
Piercy House, 7 Copthall Avenue, London EC2R 7BE
and also at our offices in Belfast, Eastbourne, Glasgow and Taunton.

UK COMPANY NEWS

Baggeridge well ahead at £0.49m midterm

GROWTH at Baggeridge Brick, the Dudley-based supplier of materials in the construction industry, continued apace in the six months to March 31 1984, with pre-tax profits jumping from £300,000 to £492,000 on turnover ahead from £3.15m to £3.86m.

The directors explain that an increase in production at Sedgley was made possible by new brickmaking plant installed a year ago. This, together with the introduction of natural gas in the last quarter at this works, contributes largely to the improved first half result.

Natural gas also became available at Kingsbury from the middle of March, they add.

There continues to be a keen demand for the company's specialised products which are sold into a wide market in the UK, they report, and it is anticipated that this trend will continue for the remainder of the current year.

Trading profits in the opening six months improved by £230,000 to £683,000.

With the tax charge up from £156,000 to £246,000, the net outcome showed a £102,000 increase at £246,000, while earnings per 25p share expanded from 3.6p to 6.15p.

On these the net interim dividend is lifted from 1.5p to 1.875p; last year's total dividend of 3.25p on profits of £237,000 (£488,000).

BTR 50% higher and major bid in the offing

BTR has started the current year showing a sharp increase in profits and is planning a major acquisition, preferably in the U.S., which could cost anything between £250m-£500m.

The likely target would have a turnover above U.S.\$1bn and BTR could make such a bid towards the end of this year, although it is more likely to be in 1985.

Sir David Nicolson, chairman, told yesterday's annual meeting that pre-tax profits, excluding Houston-based energy operations for more meaningful comparison, were some 50 per cent higher than in the opening period last year.

BTR's share price rose 20p yesterday to 480p.

The excluded energy operations which incurred substantial losses in the first half of 1983 had consolidated on a break-even

base from which a gradual improvement was in train.

Sir David said that for the group as a whole in the opening months of 1984 margins had continued to progress and order intake had been reflecting volume improvement in a number of business sectors.

Accompanying news of higher profits was an announcement of changes on the board.

After 15 years as head of the group Sir David is handing over to Mr Owen Green, who is to become group chairman and chief executive.

Sir David said he would be remaining on the board as a non-executive director.

Mr Green, who yesterday celebrated his 50th birthday, said "Acquisitions have certainly continued to feature in our growth plans and our forward plans are aimed at maintaining the sort of

growth we have experienced in the past."

He said the "bumper 50 per cent profits increase" scored in the opening months of this year was arrived at after adjusting comparisons to include results of Tilling, acquired last year.

Sir David reported Tilling was now integrated into the BTR organisation, the necessary structure changes had been implemented and the BTR reporting system introduced.

Profits were increasing and the full fruits of the Tilling acquisition would be very evident in the course of one year or two years at the most.

Mr Green has given himself two years in which to find a successor for his own top job, he said later yesterday: "I would not expect to be chief executive for more than another two years. After that I will become non-executive chairman."

J. Beattie growth rate slows down

SECOND HALF pre-tax profits of James Beattie, retail stores operator, rose by £292,000 to £3m and, coupled with a £115,000 improvement to £1.19m in the first six months, left the result for the year to January 31 1984 ahead from £3.48m to £4.19m.

As regards the current 12 months, the directors report that trade has not been buoyant in the first few weeks and sales by April 30 were only 3 per cent above those for the corresponding period.

Turnover for the year under review pushed ahead from £39.81m to £43.38m, including VAT. On this, a trading result of £4.21m (£3.81m) was struck before interest payable of £23,000 (£26,000) and the inclusion of £68,000 (£80,000) on account of interest received.

Earnings per 25p share advanced from 8.01p to 9.79p following a tax charge of £1.95m (£1.64m), and the net dividend is lifted from 2.65p to 3.4p.

The directors report that the company is hoping to be able to begin an extension to its Birkenhead store in 1984 and possibilities elsewhere are being considered.

Intervention rights

THE Intervention Video rights issue resulted in 77.55 per cent of the new ordinary shares being taken up by shareholders, and the balance of 1.14m shares has been sold in the market at a premium which will be distributed to those who did not take up their provisional allotments.

Matthew Brown at £2.73m as growth is maintained

AS FORECAST at the last AGM, Matthew Brown, brewer, continued its progress in the six months to March 31 1984 with pre-tax profits advancing from £2.51m to £2.73m.

This was achieved on an increase in turnover from £17.72m to £19.23m and, following depreciation of £780,000 (£882,000), the trading outcome finished £411,000 higher at £2.77m.

The pre-tax results included a £3,000 (£24,000) profit on disposal of properties and investments and £8,000 (same) for income from investments. It was after interest payable of £46,000 (£121,000 received).

With tax taking £1.22m (£960,000), earnings per 25p share fell from 7.54p to 7.19p. However, to reduce disparity with the final dividend, the interim distribution is being raised from 1.6p to 1.75p net.

Last year's total payment was 7.42p from profits of £8.43m.

Following the proposed changes contained in the 1984 Finance Bill, the tax charge for the half year has been calculated at 47.5 per cent and provision has also been made for deferred tax on all material timing differences arising in the period at a rate of 35 per cent, making an effective rate of 44.5 per cent compared with 38.3 per cent for the corresponding period last year.

The directors consider it is likely that provision for deferred tax will be required in respect

BOARD MEETINGS

The following companies have notified dates of board meetings to the Stock Exchange. Such meetings are usually held for the purpose of considering dividends. Circular indications are not available as to whether the dividends are interim or final and the sub-divisions shown below are based mainly on last year's timetable.			
TODAY			
Interim—Gran Manopolita.	May 22	Kaisley Industries	May 22
Final—Anglo American Coal, Amos	May 22	Management Agency & Music	May 22
Hilton, Jura Rubber Plantations,	May 22	North Midlands Construction	May 18
London and Leazes Investment Trust	May 22	North News Magazines	May 22
Water, Runcheman, Sars, Seacombe	May 22	Sidley	May 22
Marshall and Cammion, Unifon.	May 22	Western Selection	May 21
FUTURE DATES			
Interim—		Associated British Foods	May 17
Davenports Brewery	May 23	GT Global Recovery Inv. Tr.	May 24
Employ Trust	May 23	Goldcorp (A)	May 24
ICL	May 23	London Pavilion	May 24
Inch District	May 23	JSD Computer	May 21
		London Trust	May 18
		Macdonald Martin Disinfectants	May 23
		Northern Securities Trust	May 25
		Personal Assets Trust	May 18
		Radema Health International	May 17
		Sandhurst Marketing	May 24
		Stuart Food Products	May 17
		Tyche	May 28
		Typhie	May 26

of capital allowances received in previous periods.

The amount of provision which will be an extraordinary charge against the profit for the year has not yet been accurately calculated.

This year's trade includes some 10 weeks' contribution from the newly acquired Carlisle public houses, but this gain was offset by the fact that Easter fell within the first half of last year.

The company's two bitter beers have held up well in what remains a depressed trading region. Sales of its mild beers are slightly down.

Confidence in Slalom, the directors state, is such that, since the end of the first half, the company has been ordered the national take-home market for the first time, albeit on a modest scale.

The profit margin is small in this exceptionally competitive field but, supported by highly successful sales to the company's tied and free-trade outlets, the contribution will be positive, they say.

They add that they cannot report any definite outcome to the R. Theakston acquisition proposals, on April 17 in the High Court.

Judgment was given in favour of Paul Theakston, confirming the legality of his holding of a majority interest in his company, supported by a loan from Matthew Brown.

The directors understand that an appeal is to be lodged against the verdict and must await judgment of the Appeal Court before any further progress can be made.

Ryan Intl. tops £1m mark but dividend still omitted

FOLLOWING consolidation of a newly acquired subsidiary at Ryan International, pre-tax profits increased from £886,000 to £1.12m for 1983. Turnover of this Cardiff-based plant hire contractor and coal factor expanded from £12.22m to £28.02m.

In the light of circumstances and uncertainties arising from the industrial dispute between the NCB and NUM, the directors are not recommending the payment of a dividend. This is in contrast to their prediction at the end of 1982 that dividends would be resumed.

Earnings per 5p share fell from 2.86p to 0.97p.

During 1983 the directors say that the group acquired the outstanding share capital of Ryan Europe SA which has been consolidated as a subsidiary. In previous years these results had been included on an associate basis.

In coal recovery operations the directors say that Ryan Europe maintained a "superior

performance" throughout the year, but in the UK and U.S. significant losses were incurred. Building products continued to make progress in sales turnover and profitability.

The financial results of newly acquired subsidiaries have been consolidated as from the beginning of 1984.

At the operating level profits increased sharply from £664,000 to £2.52m which included associate losses of £143,000 against previous profits of £584,000.

Interest payable rose to £1.35m against £432,000. Interest receivable was £79,000 (£110,000).

Tax amounted to £365,000 (credit £58,000) and there was a pre-acquisition profit of £433,000 in Ryan Europe this time.

At the end of the last full year the directors said that the level of group borrowings would increase substantially as a result of considerable growth in operations and the Ryan Europe acquisition.

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Rates subject to variation. *Gross yield assumes 30% basic rate tax.	

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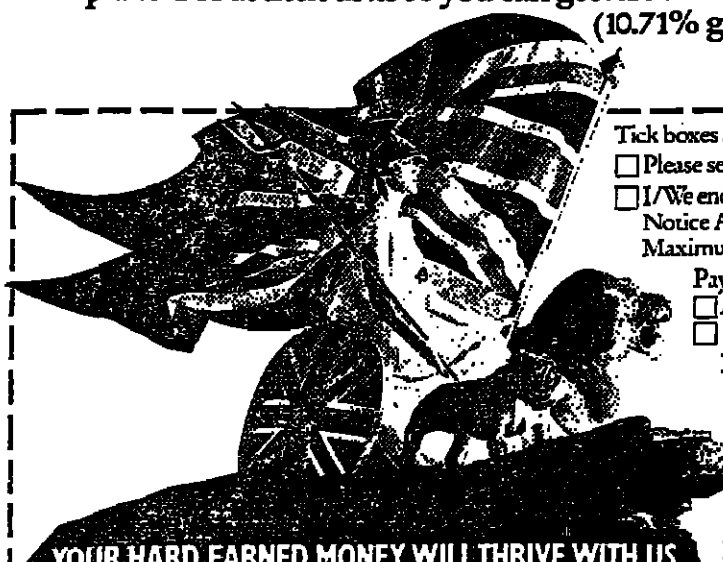
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Date

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- ☐ Benefits paid to members rose by 59% to £4.7 million.
- ☐ Operating costs reduced further to 9.3% of contribution income.
- ☐ Significant membership increases in all main classes of business.

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Henry Ansbach	9 1/2%	Hongkong & Shanghai	8%
Armo Trust Ltd.	9 1/2%	Kingsnorth Trust	10%
Associates Cap. Corp.	9%	Knightsley & Co. Ltd.	8 1/2%
Banco de Bilbao	9 1/2%	Lloyds Bank	9%
Bank Hapoalim BM	9%	Maitland Ltd.	9%
BCCI	9 1/2%	Edward Maunsell & Co.	10 1/2%
Bank of Ireland	9 1/2%	Merrill & Sons Ltd.	9 1/2%
Bank of Cyprus	9 1/2%	Midland Bank	9 1/2%
Bank of India	9 1/2%	Morgan Grenfell	8%
Bank of Scotland	9 1/2%	National Bk. of Kuwait	8%
Banco Belgio Ltd.	9 1/2%	National Girobank	8%
Barclays Bank	9 1/2%	National Westminster	9%
Beneficial Trust Ltd.	10%	Norwich Gen. Trst.	8 1/2%
Bremar Holdings Ltd.	9%	People's Trst. & Sv. Ltd.	9 1/2%
Brit. Bank of Mid. East	9 1/2%	R. Raphael & Sons	9%
Brown Shipley	9 1/2%	S. Refog & Co.	9 1/2%
CL Bank Nederland	9%	Rothmans Guarant.	9 1/2%
Canada Perm't Trust	9%	Royal Trust Co. Canada	9 1/2%
Cashe Court Trust Ltd.	9 1/2%	J. Henry Schroder Wagg	8 1/2%
Cayzer Ltd.	9 1/2%	Standard Chartered	9 1/2%
Cedar Holdings	9 1/2%	Trade Dev. Bank	9 1/2%
Charterhouse Japhet	9 1/2%	TCB	9 1/2%
Choulatons	10 1/2%	Trustee Savings Bank	8%
Citibank NA	9 1/2%	United Bank of Kuwait	8%
Citibank Sec.	9 1/2%	United Mizrahi Bank	8%
Clydesdale Bank	9 1/2%	Valhalla Limited	9 1/2%
C. E. Coates	10 1/2%	Westpac Banking Corp.	8%
Comm. Bk. of N. East	9 1/2%	Whiteaway Laidlaw	9 1/2%
Consolidated Credits	8 1/2%	Williams & Glyn's	9 1/2%
Co-operative Bank	9%	Wintrust Secs. Ltd.	9 1/2%
The Cyprus Popular Bk	9 1/2%	Yorkshire Bank	9%
Dunbar & Co. Ltd.	9 1/2%	Members of the Accepting Houses Committee	8%
Duncan Lawrie	9 1/2%	7-day deposits 5.75% 1-month 6.50% 3-month 7.25% 6-month 7.50% 12-month 8.25%	
E. T. Trust	9 1/2%	7-day deposits on sums of under £10,000 6.50% over £10,000 7.25%	
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First Nat. Fin. Corp.	11%	Call deposits £1,000 and over 9.5%	
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Robert Fraser	9%	Marquise base rate.	
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Hambros Bank	9 1/2%		

FINANCIAL TIMES SURVEY

Tuesday May 15 1984

Mobile Communications

The potential is there for a powerful expansion in more flexible and convenient systems, offering opportunities to many more users. This will create new urban networks and improvements in communications in remote regions.

Big advantages for business users

By GUY DE JONQUIERES

MOBILE COMMUNICATIONS, hitherto the mainstream telecommunications industry's poor relation, appears set to come into its own during the 1990s. It is poised on the threshold of a powerful expansion which promises to open up a new world of convenience and flexibility for a vastly-increased number of users and to stimulate demand for a range of innovative equipment and services.

There is now a real probability that within the next few years the in-car telephone will cease to be just a rich man's toy and become a widely-available working tool. Beyond that lies the prospect of truly portable telephones, small enough to fit in a pocket, which can be used almost anywhere.

For users in the world's major business centres, such developments will offer major advantages. They are likely to be particularly attractive to anyone whose work involves a high degree of mobility and whose costs are closely-related to time—among others, fleet operators, sales representatives, plumbers and professionals such as lawyers, architects and surveyors.

The potential for the new generation of mobile communications systems goes further than just urban areas,

however. The systems may soon, for instance, offer an economic alternative to land-based networks in remote regions such as Canada's frozen north and developing countries with populations thinly-spread over large land-masses.

The reach of radio transmission, traditionally the principal medium for mobile communications, is being extended by the use of modern satellites. An international satellite network, providing sophisticated voice and data links between ships and their shore bases, is already being operated by Inmarsat. Experiments which will use satellites to provide communications with vehicles on land are also planned in North America.

Command

Nor are the growing benefits limited just to civilian and commercial applications. The new systems are playing an increasingly important role in the defence field, to provide battlefield communications and command and control systems.

The key to many of these advances lies in the spread of cellular mobile radio systems. Cellular systems, which rely heavily on the application of computer technology, promise to overcome many of the restraints on channel capacity

which have restricted the availability of conventional radio-telephone services and kept charges high.

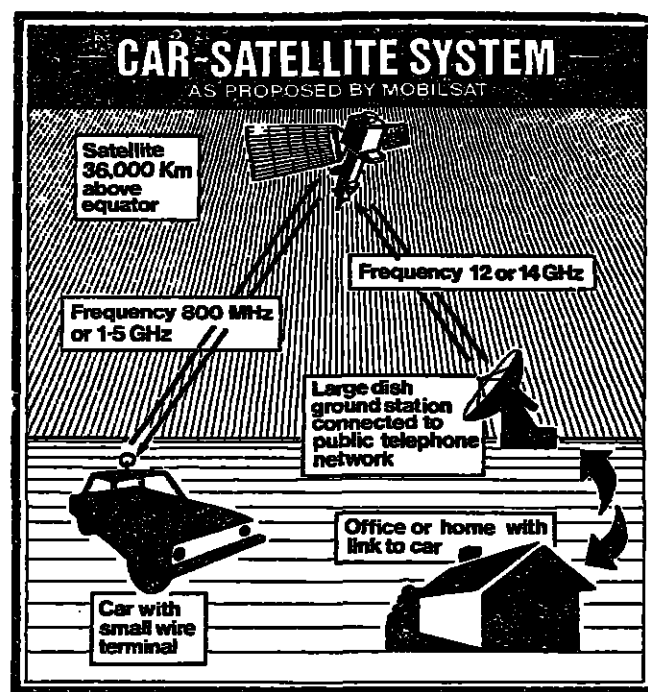
Public cellular services are already operating in several U.S. cities, in parts of Japan and in the Nordic countries. The enthusiasm of customers appears to have amply justified in practice the expectations generated by their theoretical and technical advantages.

A stampede for licences to operate cellular systems has developed in the U.S. since the Federal Communications Commission authorised the start of commercial services two years ago. By the end of this year, they are expected to be available in about two dozen American cities. National services are due to be operating in Britain and many other European countries by next year.

Unlike conventional radio-telephones, cellular systems are designed to enable a large number of different mobile radio users in the same city to use the same frequencies simultaneously without interfering with each other's communications.

They do this by splitting a city into a number of separate "cells," each served by its own transmitter/receiver or base-station. Because the base stations operate only at low power levels, the same frequencies can be re-used only a few cells apart. As a user moves from one cell to another, the system automatically switches his call to the new frequency.

Because they are controlled by modern electronic exchanges, cellular systems can offer a number of novel features such as call-holding, automatic call transfers and conference calls



How a satellite system works. By connecting the public telephone network to a ground station, people can communicate voice or data messages via satellite in rural areas which terrestrial networks are unlikely to cover

between several individuals. They are also expected in future to carry "value-added" services such as automatic telephone answering and electronic mail-box facilities.

Some experts believe that cellular systems may eventually fill much of the demand met by paging services and by telephone answering devices. Though they will probably be used predominantly for voice

telephony, they also lend themselves to the transmission of information in the form of data, facsimile and telex messages.

The number of cellular mobile units in use by the end of this year is estimated by American market research firm Frost and Sullivan at about 120,000 in the U.S. and about 70,000 in Western Europe. But by 1989, the numbers are expected to have soared to

about 1.6m in the U.S. and almost 1.1m in Europe.

Management consultants Arthur D. Little are even more bullish. They tentatively project between 1.7m and 2.5m potential subscribers and \$3bn to \$4.5bn potential revenues in the U.S. by 1987. In Europe, they believe that the number of subscribers could be between 2.2m and 4.4m by 1987.

Moreover, Arthur D. Little's calculations suggest that as volume production increases, the price of mobile units in the U.S. may drop from about \$1,000 each today to less than \$250 in 1990, by which time they would be well below the fixed cost per subscriber of local telephone networks.

As the forecasters themselves admit, however, firm evidence on which to base predictions is still fragmentary. Much will depend on the pricing levels set for cellular mobile services, manufacturers' commitment to the production of mobile units, technical developments and—especially in Europe—political factors.

For a Europe increasingly worried by its ability to compete with the U.S. and Japan in high-technology markets, the advent of cellular radio could have presented an ideal opportunity to close ranks around a common system extending from the Iberian peninsula to Scandinavia.

An agreement along these lines would have been greatly to the advantage of users. It could also have formed the basis for a unified market large enough to offer European equipment manufacturers the economies of scale available to their American competitors on their home market.

That could have offered a major platform for European manufacturers to capture a bigger share of the world mobile communications market. At present, the market is dominated by Motorola, GE-Stereo and E. P. Johnson, all of the U.S., while competition from Japanese companies including NEC, Oki and Matsushita is growing strongly. Among European companies, only Sweden's I. M. Ericsson and Philips of the Netherlands have a broad international base.

Patchwork

However, Europe has ended up opting for a patchwork of different, and probably incompatible, systems. France and Germany have agreed in principle on a common standard, which seems likely to be based on a design developed by Siemens in co-operation with the West German Post Office.

Scandinavia, Spain, Austria and the Benelux countries have committed themselves to the Nordic Mobile Telephone System. Britain has chosen a standard based on the Advanced Mobile Phone System in use in the U.S. And Philips and France's CIT Alcatel are seeking customers for still another type of system, MATS-E, which they have developed jointly.

Many industry experts believe that this fragmentation will lead to unnecessary technical complications—for example, in the design of facilities to allow users to "roam" across frontiers. The prices of mobile units may also be higher than they need be, because manufacturers' costs will have to be recouped over shorter production runs.

Beyond these structural prob-

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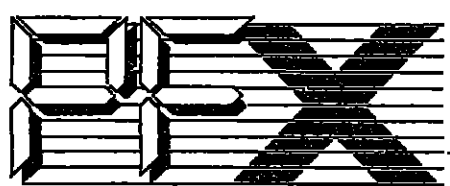
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lems in Europe, some more general uncertainties remain. Experts differ over whether it will be technically possible to expand the capacity of cellular systems to the point where they could offer a universal alternative to conventional fixed telephone links. And if it were possible, what would be the economic consequences for telephone carriers?

Another imponderable is the speed at which compact handheld mobile units will become commercially available on a wide scale. Though some are starting to appear on the market, they are relatively expensive and there is scope for considerable further development, both in terms of component miniaturisation and of battery power.

Nonetheless, many experts are confident that the challenge will be met. Perhaps, before the end of this century, the two-way wristwatch radio may move out of the realm of science fiction and become a reality.

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Engineering breakthrough cuts airwave congestion

Cellular networks

GEOFF CHARLISH

CELLULAR RADIO is being implemented because conventional systems cannot accommodate the large number of would-be subscribers.

Only a few months ago British Telecom increased the annual rental for its System 4 automatic dialled system to £800 a year—twice what it was a year or two ago—in an attempt to stem the demand.

Operating authorities and companies the world over have had similar problems, but the fact is that there are simply no more channels in those segments of the radio frequency spectrum that have been allocated to mobile radio. The effect is similar to the crowding on the medium waveband of a domestic radio—no stations can be crammed in and many already interfere with each other.

Ways have been devised by engineers to compress each channel into a smaller spectrum space. The figure is now 12.5KHz—in the 1970s it was 25KHz and at one time it was 50KHz.

The use of higher frequencies (in the UHF band) also helps, since this automatically gives more channels.

Another worthwhile concept is "trunking." In any area, instead of a number of private user groups each having a fixed channel frequency, a number of channels are allocated to the area as a whole and each group is allocated one of them by computer when, and only when, the need arises. Each of the available channels is used more fully and service improves. Privacy is not affected.

But in the public domain, the objective of cellular radio is fully to extend the wired telephone network both to vehicles and to hand-held units that can easily be carried about in briefcase or coat pocket.

A conventional mobile radio-telephone system for a town often uses a single high-power radio transmitter near to the centre of the service area. The radius of coverage might be 15 to 20 miles. The situation is similar to city television coverage and the aerials are usually on a hill top to extend the range.

Such a system might be allocated, say, 50 channels. But the high-power transmitter prevents them being used again within perhaps 100 miles or more, for fear of mutual interference—a particular problem under certain anticyclonic weather conditions.

Cellular radio allows those channels to be used over and over again. A city area is divided into a number of "cells" (often depicted as hexagons on paper because they fit together without gaps). Each cell might be only a mile or two across and at its centre is placed a low-power transmitter just able to cover the small area properly, and a base station receiver.

Then the set of channels used on, say, the south-west side of the city can be used again in the north-east. There is no risk of interference because the two cell transmitters are low power.

All the cells are connected by leased telephone line (or possibly a microwave link) to a controlling computer which acts as a special kind of telephone exchange. This, in turn, is linked to the national wired telephone network.

To make a call, the mobile user keys in the number he wants and his equipment sends it to the cell base over a special control channel which all the mobiles can permanently use. The cell base station relays the

number to the computerised exchange, which then does two things.

First, it allocates a free radio speech channel and tells the mobile (over the control channel) to tune to it. Secondly, it dials out the number the mobile wants into the public telephone network. The whole process takes only a few seconds.

Someone in the fixed public network wanting to call a mobile dials a prefix code (to get into the cellular system) and the mobile's number. The call comes into the cellular system's computer-exchange, which then pages all the mobiles over the control channel frequency. They all receive the data and immediately compare the number with their own—but only the matching one responds and is allocated a speech channel.

When a vehicle moves from one cell to another, the system knows because the base station receiver in the new cell starts to get a stronger signal than the one on the old cell. Then, if a call is in progress, the vehicle is allocated a new frequency from the new cell's set of channels. The process is so rapid that subscribers cannot usually detect it—less than 0.5 second is typical.

Starting with London, from 1985 Britain will have cellular services offered by two competing consortia—Telecom Security Radio (TSCR) formed by British Telecom and Securicor, and Racal-Millicom, whose service is to be known as Racal Vodaphone.

Neither company is revealing much about cost to the user at the moment, for obvious reasons. But market researchers Frost and Sullivan have estimated that at start-up, with say, 10,000 subscribers, the total annual cost for a user (with the purchased equipment cost amortised and 200 minutes of used air time a month) might be about £1,700, which is a little less than present conventional automatic systems. At 100,000 subscribers however, the figure drops to £960.

Extended In most European cities, service will start with up to six cells near the centre and then be extended. When demand becomes big enough, an important advantage of cellular radio—cell splitting—will be brought into play. The resulting larger number of smaller, lower power cells will allow even greater frequencies, improving channel availability and reducing congestion.

Mobile telephones will be easy to use while the vehicle is in motion; for example, hand-

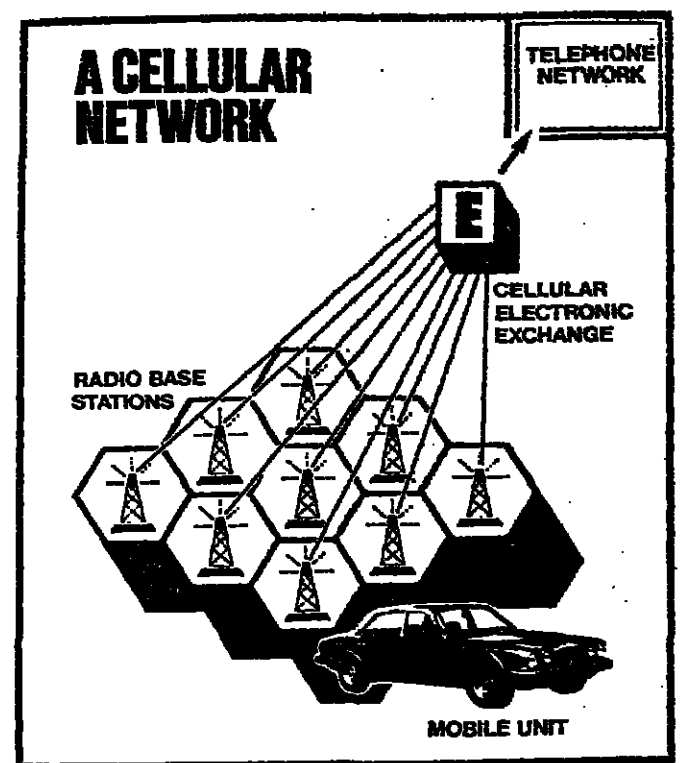
sets will not have to be taken off hook in order to "dial" on the keypad. Otherwise, they will be used just like an ordinary telephone.

Later, data terminals will appear. For example, in the U.S., a new hand portable unit is known to be under development in a joint Motorola-IBM project.

For data transmission it is possible that "packet radio" techniques will be used. This is similar to line-based packet transmission: the data to be sent is divided up into "packets" which are sent at various moments when free time arises on the channels. In this way, best use is made of the available channels.

Within one national system, "roaming" from area to area will become possible, so that a London-based vehicle will be useable in, say, Edinburgh. But as things stand, a British mobile will not be useable in other European countries because the systems are technically incompatible.

In the mid-1990s however, it seems likely that a second generation of cellular radio will emerge that is all digital, in the sense of using digital transmission for voice and data alike. Prospects for European standardisation will then arise.



Plans and hardware come under scrutiny

Satellite systems

PETER MARSH

GOVERNMENT officials in the U.S. and Canada are considering a satellite communications system for cars and lorries that could be in operation by the late 1980s. The system would be run jointly by companies from the two countries and connect vehicles with the land-based public telephone network.

The \$400m set of hardware, based on two satellites in geostationary orbit 36,000 km above the earth and several hundred ground stations, would serve vehicles in rural areas which terrestrial cellular radio networks are unlikely to cover.

Vehicles would need to be equipped with small aerials which, with their electronics, would cost about \$4,000 at the planned start of the service in 1988, falling to \$2,000 in the 1990s.

With the equipment, people would communicate voice or data messages with homes or offices via the satellites and ground stations. The latter would be administered by telecommunications companies and would feed into ordinary telephone lines.

Telesat, a Toronto company in which the Canadian Government has a 50 per cent stake,

would run the Canadian part of the service. The U.S. partner would be one of two companies—Skylark, based in Boulder, Colorado, or MobilSat of King of Prussia, Pennsylvania.

Plans have come under the scrutiny of the two sets of government officials in the U.S. and Canada. In the former, the Federal Communications Commission should decide next year which of the two U.S. applicants should be allowed to take part in the service.

In Canada, the Department of Communications, which has studied mobile satellite communications since the early 1970s, is due to announce in the autumn whether a formal link with the U.S. is desirable and what part the government should play in the system.

Relay According to planners, by the early 1990s the satellites could provide communications for about 100,000 cars and lorries in the U.S. and Canada.

Mr Roy Anderson, who worked previously with General Electric and founded MobilSat with ex-colleague Mr Roy Kiesling two years ago, suggests other uses for the satellite system. He says the hardware could act as relay points in the sky for data sent automatically from sensors on board trucks or railway wagons.

The sensors would produce information about the contents of these vehicles—for example,

the temperature of frozen food. By tuning into signals from the satellite, haulage companies would keep a constant check on the goods carried by their rail or road fleets.

In another application, about which Mr Anderson has opened discussions with airlines, the system would send signals to transponders fitted to aircraft and pick up messages that these vehicles automatically emit. In this way, the satellite hardware could identify aircraft and help to control air traffic.

The seriousness of the discussions in North America shows how mobile communications involving satellites, which a few years ago would have been dismissed as a Buck Rogers fantasy, are fast becoming a reality.

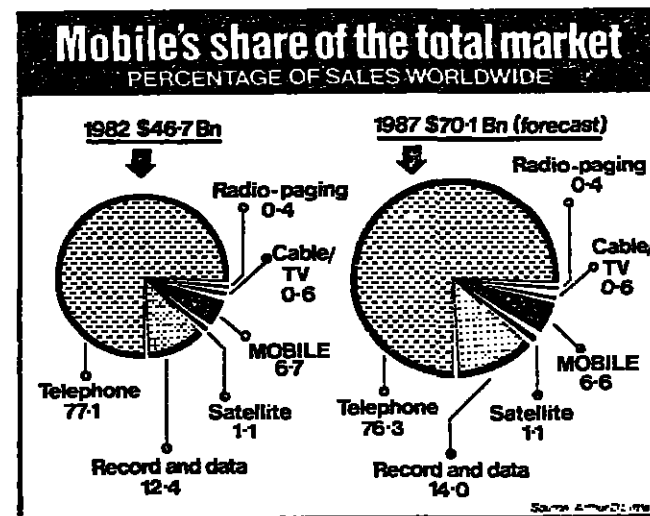
Thanks to an international organisation called Inmarsat, satellite communications for ships are already commonplace. Set up two years ago and based in London, Inmarsat is owned by about 40 countries and earns \$40m a year by channelling voice and data messages between 2,300 ships and their shore bases.

Inmarsat leases transponders on five spacecraft in geostationary orbit. It sells communications services using these satellites to telephone organisations around the world (of which British Telecom is one) which, in turn, collect fees from ships that make telephone calls or send data messages.

Inmarsat could well turn out to be extremely profitable—its annual turnover is growing at 20-30 per cent a year. The organisation expects demand for its services to increase at that rate such that up to nine new "second generation" satellites, costing up to \$500m, will be needed from 1988 onwards.

Next year, Inmarsat will award a contract to build the spacecraft to one of two international consortia, either Hughes/British Aerospace or Ford/Marconi/Aerospatiale.

Mr Olof Lundberg, Inmarsat's director general, expects that by 1995 some 85 per cent of the world's 25,000 or so ships (the rest are small, 1,900 tonnes) will communicate with the shore by Inmarsat satellites. Ships of this tonnage are generally equipped with some



kind of electrical signalling apparatus, normally high-frequency radio.

Another market for Inmarsat is vessels below 1,600 tonnes such as pleasure or fishing boats; about 15 per cent of Inmarsat's current customers fall into this category. Mr Lundberg says that, by 2,000, he hopes that some 20,000 such vessels will tune into his organisation's satellites.

Two factors chiefly determine whether possible customers, whether they are car drivers or ship owners, will buy communications using the fees charged for using the service; and the cost of the transmitting/receiving hardware they require.

Fees

The British Telecom charge for using Inmarsat's satellites is £3.50 a minute for telephone traffic or £1.75 a minute for telex. The North American organisations that plan satellite communications using the fees charged for using the service; and the cost of the transmitting/receiving hardware they require.

A strategy based on low-gain aerials would provide a service in which the speech quality in telephone messages would be fairly low. But customers probably would be prepared to put up with this, just as they do not seem to mind generally low-quality reception on conventional mobile radio links.

The cost of the receiving/transmitting equipment on the customer's vehicle is directly proportional both to its size and technological performance. The antennas on ships that use the Inmarsat system are similar to the "dish" aerials associated with point-to-point satellite links. The ship antennas are smaller versions of the land equipment. They cost about \$25,000 and measure about a metre in diameter. The hardware has to be steerable so that it points always in the direction

of the satellite in its geostationary orbit high above the equator.

With road vehicles, the requirement is different. Cars and lorries clearly are not big enough to carry with them "dish" antennas even of modest dimensions. And to build into the hardware mechanisms to keep the antennas pointed would not be practicable. This level of complexity would also put up the cost to a figure out of the price range of lorry or car owners.

The organisations tackling the problem in North America have proposed fairly cheap and unsophisticated radio aerials for the vehicles. These would be little more than pieces of wire and could be easily mounted on top of the car or lorry. They would be "low gain" aerials—they amplify received signals by perhaps only a factor of two compared with factors of at least 10 with "high gain" equipment.

Trade-off, the power emitted by the satellite must be quite high. In practice, this means a satellite radiating a total power of several kilowatts. Further, the satellite system would accommodate only a small number of voice or data channels. These would total a few thousand (or even a few hundred) as opposed to the tens of thousands of channels that today's point-to-point communications satellites can handle simultaneously.

A strategy based on low-gain aerials would provide a service in which the speech quality in telephone messages would be fairly low. But customers probably would be prepared to put up with this, just as they do not seem to mind generally low-quality reception on conventional mobile radio links.

Military prepares for information battle

Armed forces

PETER MARSH

THE WORLD'S superpowers are spending billions of dollars to create communications networks that link up every artefact of their armed forces, from the humble soldier on the battlefield to the people in control of missiles and anti-satellite weapons.

According to military strategists, much will depend in any future large-scale war on the ability of the adversaries to keep their communications systems intact and to stop foes "tapping" the networks to find out what they are doing.

A similar philosophy applies in the myriad of lesser confrontations that are being fought on the planet at any time. Military chiefs in Britain, for example, are still digesting the lessons in communications strategies from the Falklands War of two years ago.

Also crucial in the major battles of the future will be the capability of armies simply not to be overwhelmed by the quantities of information that will come their way via electronic networks.

As a result of this, telecommunications are attempting to apply to the battlefield some of the techniques incorporated in office-automation systems that aim to help the hard-pressed business executive.

Advantage

The emphasis on communications has led to a spiralling pattern of research as countries bid to out-do any possible enemies in their ability both to send messages and to gain an advantage through eavesdropping.

Military scientists are pressed, first, to work on techniques of electronic warfare to counter opponents' capabilities in information gathering.

The techniques, for example, aim to intercept messages to find out useful information, perhaps about troop movements; to jam the other side's radio to stop any messages getting through; or to use direction-finding techniques to locate the position of radio operators and take suitable action.

The next stage in the hierarchy of research is to discover ways of combating these intelligence techniques. This was born a battery of methods known in the jargon of military specialists as electronic counter - counter - measures (ECCM).

One obvious ECCM technique is automatic encryption. A micro-electronic device in an individual radio "scrumbles" in a set way waveforms arising either from a voice message or a segment of data.

Encryption would certainly apply to vitally important messages sent, for example, over long-distance satellite links between governments or from heads of armed forces to commanders in battlefields.

But probably only about 80 per cent of the radios in use by combat soldiers include encryption devices. An ECCM technique growing in popularity among the technologically aware armies of the Western world and the Middle East is frequency hopping.

Soldiers conventionally transmit on just one frequency. They can operate various time-honoured measures to reduce opportunities for listening in or jamming. For instance, they can use the radio only sparingly or keep the power of transmissions low to stop the message carrying to within enemy lines.



Operating field equipment. Radio counter-measures are a continuing research priority

A more sophisticated method is to build into the radio set a system that automatically changes the frequency of the message in a random fashion and at a rate of anything up to thousands of times a second.

"Friendly" radios have similar devices that scramble the frequency hops. Anyone listening in who does not know the pattern of the jumps would be unable to detect what is in the messages.

Neither would an enemy be able to jam effectively. To do this, a counter-measures officer needs to know the frequency on which a radio is receiving signals. He then directs "noisy" radiation at or around this figure to obliterate the traffic.

But if he can never be sure at what frequency the messages are being sent there is little he can do.

The U.S. Army, with a project called SINGARS, is to spend \$4bn until the early 1990s on 250,000 frequency-hopping radios to be divided among its 780,000 soldiers. The Army has asked TTT to make the first batch of 28,000.

Many of the radios will be spare. The Army plans to give a radio to an average one soldier in every 12. Members of the British Army are more fortunate in quantitative terms. Some 30,000 radios are divided among a combat force of 150,000. But the standard radio is nothing like as advanced as the SINGARS type. This is the Cansman, which the Ministry of Defence has issued since 1975. The MoD will continue buying Cansman until 1995. Only after this will the Ministry issue more modern frequency-hopping radios in large numbers.

Cansman is made by several companies, including Racal, Marconi and MEL. The radio costs between £5,000 and £10,000 depending on the company supplying the hardware; whether it works in the high-frequency (2-30 MHz) or very high-frequency (30-80 MHz) bands.

Typical

Cansman is typical of the radios for combat forces of which, according to industry estimates, the world's armies (not including China and the Soviet bloc) buy some 200,000 worth \$650m each year.

Two British companies, Racal and Marconi, make the more advanced frequency-hopping radios. Racal has sold several thousand of its Jaguar frequency-hopping sets worth £35m, mainly overseas. The company has also sold 120,000 Cansman units, also mainly exports.

Other companies with similar frequency-hopping radios include Harris of the U.S. and Telrad of Israel. In a battle, such "combat-

net" radios would be handled mainly by squadrons of soldiers operating from a brigade headquarters, which is at least partly mobile. Typically, a brigade contains about 2,500 people.

But communications links between brigades—or further up the chain of command to divisional level and ultimately to the head of the armed forces—would be accounted for not solely by radio but by a mixture of microwave, cable and satellite links.

The British Army has chosen for its system to link brigades and higher levels of command Parnigan telecommunications equipment made by Plessey. The Ministry of Defence has ordered Parnigan hardware worth some £400m. The equipment is based on switching equipment developed for Britain's System X civilian telecommunications programme.

Partner

In another application to military work of civilian hardware, Racal says it may base military communications systems on the cellular radio equipment which it is to introduce to the UK next year. Racal (partnered with Millicom of the U.S.) is one of two companies the British Government has licensed to operate cellular radio for cars and lorries.

Satellites are crucial to the chains of command in the higher levels of the world's military hierarchies. The U.S. relies largely on its Defence Satellite Communications System (DSCS) vehicles, of which eight are in operation at any time. The craft sit in four reserved positions in geostationary orbit 36,000 km above the earth—two above the Pacific and one each above the Atlantic and Indian oceans.

The vehicles relay communications between ships, army and air force command posts and government buildings. They use the 7-8 GHz frequency band reserved by international convention for military use.

The DSCS-III satellites, of which the U.S. has launched 15, are being replaced by a series of more modern DSCS-III vehicles, of which just one is so far in orbit. These craft contain frequency-hopping hardware to make them resistant to jamming. They are also "hardened" against the radiation given off by nuclear explosions—the so-called electromagnetic pulse—that in a nuclear conflict would threaten to destroy most forms of electronics communication.

The U.S. has a further battery of satellites due to be launched later in the 1980s that will supplement the DSCS-III craft. This is the \$1bn Milstar system, to be built by Lockheed, that will use extremely high frequencies above 40 GHz and involve communications links not only from the space vehicles to each other but between individual satellites.

When you're out of the office who's taking care of the business?



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Radio helps the handicapped



Wheelchair passenger for Birmingham's experimental "Ring and Ride" bus service for the disabled, which uses two-way radio to pick up other passengers en route

ervation and community projects.

Operation Raleigh is a four-year project within which are 4,000 young people from all over the world aged between 17 and 24 will take part.

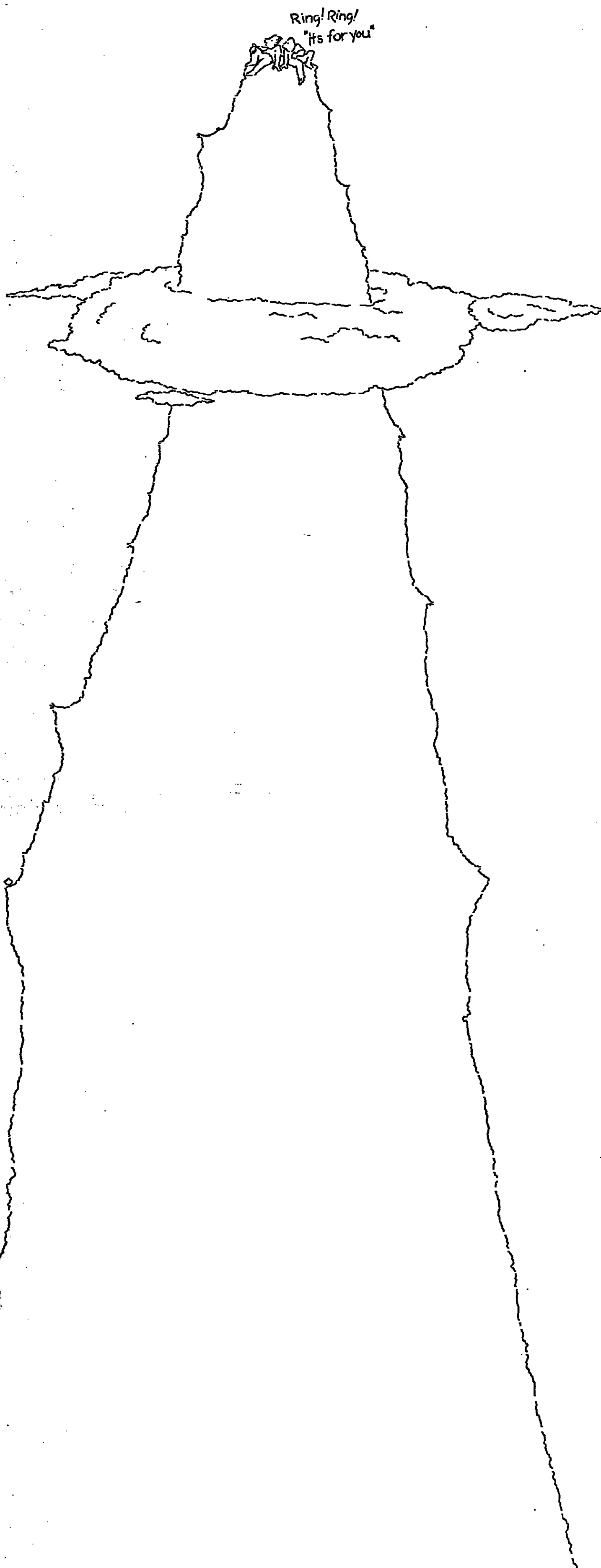
Taxis have been traditional users of mobile radios and in Sweden a central computerised booking system has been introduced for Stockholm taxi drivers. Stockholm's inhabitants on the way home from a party, for example, generally call a taxi, since drink and drive laws

are much stricter than in the UK.

A single telephone number covers all the city's taxis. Telephones are placed at taxi stands to link passengers to the central booking office.

The taxi driver can tell the system that he will soon be free to take the next customer and the computer then hunts round for a customer waiting in his area. If a driver is in a zone where several other cars are already free, the computer directs him to the nearest free zone via the shortest route.

Elaine Williams



Real technological revolutions, the kind that change people's lives, are few and far between in an age of hype.

The motor car changed the way we travel; the wireless changed the way we entertain ourselves; and the first truly portable telephone will just as profoundly change the way we communicate over distances.

Far more than just a Utopian dream, such a telephone system is only a matter of months away.

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You may not want to call New York from the top of Snowdon (although if you do there'll be no problem).

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RACAL

Mobile Communications 4

Most of the population will have access to cellular services in five years

Market set for wide expansion...

BY THIS TIME next year, if all goes according to plan, a select band of subscribers in Britain should be experiencing the advantages of mobile communications by means of cellular radio. And system operators should be getting the first inkling of whether cellular is likely to be the commercial bonanza which some enthusiasts have forecast.

Cellular services are due to start by the end of March, initially in London and the South East. By the end of the first year, they should cover all major cities and the trunk roads connecting them. By late 1989, cellular services should be available to more than 90 per cent of the population and over more than two thirds of the UK land area.

The advent of cellular systems promises to ease the severe capacity constraints

which have limited the number of subscribers to existing UK mobile telephone services to about 30,000. Only 3,000-4,000 of these enjoy full automatic dialled service, and in the London area the waiting list is almost as long as the roster of users.

At present, capacity restrictions and high charges mean that car telephones are something of a rich man's toy. Cellular technology promises to bring them within reach of a far wider market and to allow mobile data as well as voice communications. Moreover, several manufacturers are developing compact hand-held units, which could make the truly portable briefcase or pocket telephone a reality within a few years.

How large the cellular market will turn out to be is still far from certain, how-

The UK
GUY DE JONQUIERES

ever, and estimates differ. At present, the two consortia which have been licensed to offer competing national services in the UK.

One group, Telecom Security Cellular Radio (TSCR), is a 50-50 joint venture between British Telecom and Securicor. The other, Racal-Vodafone, is owned 80 per cent by Racal Electronics, 15 per cent by Millicom of the U.S. and 5 per cent by Hambros Technology Trust.

When the Racal group was bidding for its licence in late 1982, it told the government that it expected 500,000 cellular subscribers in Britain by 1990. Many industry experts believe that to be an optimistic figure, and it is not known whether Racal-Vodafone is still sticking to it: the consortium is keeping details of its service confidential ahead of an announcement planned for today.

TSCR is taking a more conservative, though confident, line. Mr Derek Wordley, its marketing director, forecasts that it will have 12,000-15,000 subscribers in the first year of operation which, he believes, will be more than half of the total. Beyond that, he says, it is hard to make any valid forecast, though he expects the UK market could be as many as 800,000 mobile users by 1995.

The future of the cellular market will depend on a number of elements, several of which have yet to be firmly settled. The level of pricing, which is widely agreed, will be a key

factor and will obviously be determined to a large extent by costs, over which the system operators will have only a degree of control.

One important issue still to be resolved is the charges which the consortia will have to pay to BT or Mercury for the use of fixed landlines to connect their systems. TSCR estimates, however, that landline charges could account for about half the cost of operating its system in peak hours.

Though neither consortium has yet published tariffs, TSCR would like to be able to charge about 25p per minute, compared with the 32p rate charged by the existing automatic radio-phone service. On top of this, there will be a standing charge. That has still to be fixed, but the present minimum charge for BT's London automatic radio-phone service is £800 a year.

Equally important will be the price of the mobile units themselves. It is hoped that higher production volumes will enable prices to be reduced well below the £2,345 charged for a standard automatic radiophone unit today.

Expensive

Some industry estimates suggest that in-car cellular units will initially cost about £1,500 and that the price may fall quite quickly to £1,000 or less. But hand-held units are likely to be considerably more expensive: Motorola, which recently launched a compact unit in the U.S., is selling it for \$4,000.

Another uncertainty is the availability of extra radio frequencies as the services develop. The Government has allocated 300 channels to each of the UK consortia. Some industry experts believe that this could be exhausted fairly

quickly in London, and the Government may be urged to release another 400 channels currently set aside for cross-frontier mobile services in Europe.

A further 1,000 channels will become available after 405-line television broadcasts are phased out next year. But there could be technical problems because French television stations are continuing their 405-line services, and these could interfere with cellular communications in southern Britain, where the extra capacity would be most needed.

Much may also depend on the effectiveness with which cellular radio services are marketed. The most obvious particular senior executives of large companies. TSCR believes that cellular usage can be extended steadily down into middle management and beyond to include sales representatives, service engineers and other staff.

But Mr Wardley of TSCR believes that the large company market will be only the tip of the iceberg. In the longer term he expects the biggest growth to come from small companies and professionals such as architects, surveyors and engineers whose jobs require them to be frequently on the move. "It has been suggested to that our natural market is among users of telephone answering machines," he says.

However, the two consortia have chosen different marketing methods. Racal-Vodafone plans to sell its service and the mobile units through a separate subsidiary. TSCR, on the other hand, will not sell directly to agents, retailers and distributors. It will also sub-contract responsibility for billing service users.



The cost of car radio-phones is expected to fall as production volumes rise and more channels are made available

Tough competition for contracts

THE CONCEPT of cellular radio, which allows for a large number of subscribers communicating within densely developed urban areas, always had an obvious attraction for the Japanese, whose cities are characterised by their sprawling nature and narrow thoroughfares.

It was for this reason that Nippon Telephone and Telegraph Corporation (NTT), when it set up its first radio telephone system in 1979, decided to establish a cellular system as a complete alternative to a network using conventional technology. Thus, although in the international sense Japan was late in the field in making provision for mobile radio telephones, it has given itself a lead of sorts by establishing the most extensive cellular radio network currently in operation.

This move has allowed Japanese equipment suppliers to gain sufficient expertise in the technologies involved to become tough competitors for overseas contracts now being opened to bidding from overseas.

At present, equipment is supplied to the telecommunications monopoly NTT by two Japanese companies, Matsushita and NEC, and of the five other manufacturers who have been selected by NTT to start supplies "in the very near future," only one company is foreign: Motorola of Chicago.

NTT's mobile phone service started in December 1979, and by March this year had attracted 27,200 subscribers. Following a public announcement concerning mobile phone equipment procurements, in the same month NTT invited proposals and documentation from interested manufacturers, ten

companies including Motorola submitted applications, in October 1981.

In August, 1982, NTT announced that it had selected five manufacturers' equipment, and since that time has been carrying out tests on these prototype units. An announcement is expected very soon giving details of NTT's proposed new purchases.

A senior NTT spokesman confirmed that UK companies are included among the list of foreign companies that have expressed interest in supplying equipment to the Japanese market. He stressed, however, that so far only Motorola has been able to demonstrate equipment with the specifications

¥300,000 (\$1,320) by next year, down from the initial price of ¥1m, and a current price of about ¥450,000.

Despite the present closed nature of the mobile phone business, manufacturers have high hopes for explosive market growth after the forthcoming privatisation of NTT. It is not yet clear how much competition will be allowed, but there is pressure from many quarters for a comprehensive liberalisation.

Although NEC and Matsushita are the longest-term suppliers to NTT, several other Japanese companies including Fujitsu and Mitsubishi Electric are expected to make a strong showing. Of special interest is Oki Electric, whose subsidiary division, Oki Advanced Communications of Hackensack, NJ, shares supremacy in the U.S. market with Motorola.

The main groups of users of mobile phones in Japan at present are in construction and civil engineering, machinery and electronics, and the finance and insurance fields respectively, although there is also a strong demand from affluent individuals in a variety of sectors.

Future priorities for NTT include a reduction in the rental fees and a wider application of the technology. Many customers are asking for a facsimile and data transmission capability to be added to the radio phone and also, by the end of this year, NTT hopes to start experiments in the use of mobile phones on buses and taxis.

The most coveted aim is the development of an efficient portable unit, and much R and D work is going into this area. The key difficulty lies in the lower power levels associated with battery operation, which would necessitate the use of more of the costly base stations. Japan also has a problem in the shape of its mountainous terrain, and a modified system might be required to cover towns in hilly areas.

Industry analysts predict that once real competition begins in Japan, and prices begin to drop, growth could be biggest in the "status" markets, especially among young people. The car market itself is already nearly saturated and car owners have shown increased willingness to invest in high-tech extras to upgrade their machines.

But for all the promise the mobile phone market shows, everything still hinges upon the continuing political debate over liberalisation of Japan's telecommunications services, the future role of NTT and the encouragement of greater foreign participation in these previously closed markets.

Japan
ROY GARNER

demanded for the technically sophisticated cellular system being used in Japan.

He added that NTT is still prepared to receive new foreign applications at any time, but doubted that any new companies would be able to catch up with the competition on a cost-effective basis.

The Japanese cellular system operates on the 800 MHz wave band, although a 450 MHz band was employed at the research and development stage. The operating zones cover an area 5 to 10 kilometres wide, much smaller than the 40 kms to 50 kms common in the U.S. and Europe, and use a terminal power of 5 watts and a base station power of 25 watts.

By the end of March 1984, 282 stations had been set up across Japan, serving all of the major cities, and future plans call for all areas to be covered by 1989. The network began in Tokyo, where 70 stations are now used to cover the broad metropolitan area which includes major outer suburbs such as Chiba and Saitama prefectures.

About 8,000 new customers installed the equipment last year and the official forecast sees this number rising to more than 10,000 new subscribers in 1984. Service is on a rental basis only, and all aspects of the operation, management and repair and so on are handled by the Japan Mobile Telephone Service, a private company in which NTT is a major stockholder.

The purchase price of equipment is steadily falling, however, and the complete equipment set, which includes phone, radio receiver and transmitter and antenna, is expected to cost

...with strong government backing

BRITAIN'S Department of Trade and Industry has enthusiastically backed the development of cellular radio from the start. The Department believes that the planned system will not only offer a more efficient method of communication to large sections of the business community but will also provide a boost to Britain's electronics industry.

Ministers have made it clear that they expect the growth of cellular radio to lead to substantial investments, to add to Britain's resources in electronic technology, to provide an important new market for UK equipment manufacturers, to open up export opportunities, and to create large numbers of new jobs.

Mr John Birtcher, junior Industry Minister, told the House of Commons in late 1982 that 10,000 new jobs could be created as a result of the decision to license two competing consortia to operate national cellular radio services from early 1985.

His forecast was based partly on estimates by the Racal consortia. Its buoyant views about the prospects for cellular — conveyed to the Government in a presentation master-minded by the advertising agency Saatchi and Saatchi — were one of the reasons why it was chosen over four other bidders to operate a national service in competition with British Telecom and Securicor.

Racal has also promised the Government that a high proportion of the network equipment and mobile units needed will be made in the UK. The company, unlike TSCR, plans to manufacture itself, through a separate

subsidiary. Racal told the Government that by the end of last year UK employment in manufacturing equipment just for its system would be 1,000, rising to 2,000 by 1989. By the latter date, according to Racal, the total UK labour force involved in cellular manufacturing could be as high as 6,000.

Racal also forecast that by 1989 it would make a total investment of £200m in cellular radio, which it expects to grow into one of its biggest businesses during the next decade. So far, Racal-Vodafone and TSCR are estimated to have committed capital investments of about £40m.

Initially, however, much of the equipment needed to build their networks is being imported, because no UK manufacturer is yet making the products required. The Racal consortium has signed a contract for exchanges and base stations with Thorn-Ericsson, which is jointly owned by Thorn EMI and Sweden's L. M. Ericsson.

Agreements

The consortium is also buying several thousand mobile units from Matsushita of Japan and Mobira of Finland. TSCR has ordered £20m equipment from Motorola of Finland. TSCR has ordered its mobile radio production of equipment from Motorola of the U.S.

However, Racal has sought agreements which will give it the right to transfer technology from abroad and make equipment under licence in the UK. Motorola is spending £10m to expand its mobile radio production in Basingstoke, Hants, and Stormo, a subsidiary of

General Electric of the U.S., is also considering investment in manufacturing in Britain.

Though investment in network infrastructure obviously accounts for most of the initial spending, related cellular radio, in the longer term, an increasingly important proportion of the total is likely to be represented by purchases of in-car and hand-held mobile units.

This is a market in which Japanese electronics manufacturers, with their talents for high-volume, low-cost manufacturing, are likely to provide stiff competition. Government hopes for avoiding a flood of imported mobile units may depend on success in encouraging Japanese manufacturers to invest in Britain, as they have already done to make televisions and video recorders.

A key element in the preparations for the start of cellular services has been the choice of a system standard. Though half-a-dozen different types of system are being promoted by manufacturers, only three were in operation and commercially available when a decision was made last year.

These were the Nordic Mobile Telephone (NMT) system in

use in the four Nordic countries; the Advanced Mobile Phone System (AMPS) developed in the U.S., which had been on trial in Chicago and Washington since about 1980; and the NTT system developed in Japan.

Compromise

All involved a degree of compromise. NMT was rejected because it was commercially available only in a version operating at a frequency of 450 MHz. This frequency involves some restrictions on capacity and is, in any case, due to be phased out in favour of 900 MHz in a few years time.

After lengthy discussion, the Government and the two consortia agreed on a UK version of the AMPS system, which could be re-engineered relatively easily to the 900 MHz frequency. The British system is known as the Total Access Communications System (TACS).

This decision caused particular resentment in France, where the authorities had hoped to reach an agreement with the British Government on a common system of European origin. The French have since decided to join forces with

West Germany and have agreed on a system for which equipment will be supplied by manufacturers in both countries.

The main disadvantage of TACS is from the standpoint of the potential for exporting cellular radio equipment from the UK. No other country in the world has so far opted for it, though Ireland is considering it. Furthermore, the channel spacing chosen by Britain is narrower than that used on other systems.

The main hope for exports therefore seems to lie in persuading other countries which have not yet committed themselves to any system to choose TACS. In Western Europe, most countries have already agreed to operate a common system, but Greece, Italy and Switzerland have yet to declare their intentions.

Racal also hopes to sell TACS equipment in the Middle East and other parts of the developing world, where it has already carved out markets for its tactical communications products. The company believes that in large Third World countries, cellular radio can provide an inexpensive alternative to telecommunication networks using fixed landlines.

World's fastest-growing system

Scandinavia
DAVID BROWN

"WE REALLY had no idea this system would be so popular," said one Scandinavian PTT official. "We planned for only half as many subscribers as we now have."

The 21-year-old Nordic Mobile Telephone Network has topped the 100,000 subscriber mark and is the largest and fastest-growing cellular system in the world. Expansion plans have been pushed ahead several times, and the network is growing by nearly 500 customers a week.

Mobile telephony in Scandinavia is gradually moving away from being solely an executive perk into a service which is allowing significant increases in working efficiency in a range of occupations.

While surveys show that about 55 per cent of subscribers are still in business and industry, the number of transport factory and private users is growing as well (now 20 and 25 per cent of the total, respectively).

Subscription

In Sweden, terminals (or handsets) are marketed at about 40 private companies at prices ranging between SKr 15,000 and SKr 20,000. The annual PTT subscription cost is SKr 1,600, and call charges vary from SKr 3.45 a minute during the day to SKr 2.30 at night. A secretarial service, which will forward calls, take messages, send telex and telegrams and book hotel accommodation is also available. The average annual mobile user cost comes to between SKr 4,000 and SKr 5,000, officials say.

In the Nordic area, the leading supplier is the LM Ericsson Telecommunications Group, with annual sales of SKr 250m, which was chosen to build the first NMT central switching office.

Mr Ake Lundqvist, President of Ericsson Radio System said:

"The Nordic market was essential for us. The group has now had 243,000 subscribers installed or on order in 13 countries including the UK."

While the Nordic market is estimated to expand by about 20 per cent this year, the group has turned its strategic focus on the American market where it hopes to win a third of the annual \$200m private (non-wire line) business this year.

"We are concentrating on selling the infrastructure," says Mr Ake Persson, manager of the ERS Mobile Phone Systems Unit. His group has already won three of the first strategic orders to instal complete cellular systems in Buffalo, Chicago and Detroit.

Other suppliers on the Nordic market include Mobira, the Finnish subsidiary of the Nokia industrial conglomerate with annual sales of Fmk 216m, which has provided base station equipment to the PTT in Finland and which market mobile terminals throughout Scandinavia and Europe.

The two major foreign suppliers of base station equipment are Mitsubishi and Magnetics. The NMT has a technical defect — the 450 MHz system has a limited number of channels. By splitting cells, capacity can be expanded to a practical maximum of about 250,000 subscriber lines by mid-1986.

At that time, the NMT will start up operations with the new 900 MHz frequency system in conformity with the agreed European standard, doubling

the number of cellular switches and adding an additional 940 channels to its capacity.

"We should be able to handle demand until the new system comes into operation since 1985. It is now preparing to introduce a new 'mobitex' integrated communications system as soon as the end of next year."

The new trunking system will offer the mobile consumer "the same facilities that are available in his office," says one official. Mainly for closed systems, it will make it possible to transmit telex, telefax, data, videotext and other information from a single mobile unit.

Potential applications would allow a salesman, for example, to access the office computer to check inventories en route to a customer, a newsman to receive telex releases, and a visiting doctor to check a patient's medical history.

Several pilot projects are already under way. The Port of Gothenburg is operating a Mobitex traffic control system for its container handling equipment. Already, the system has made a significant contribution to turnaround efficiency, officials say. In the future, lorries approaching the harbour with goods will be able to obtain advanced printed clearances.

The Uppsala postal region is introducing a system which allows mobile units to bring postal services like bill-paying directly to the consumer. While the cellular market is just opening up in many countries, the Nordic area is already moving towards second-generation technology. For one businessman, this already means "My office can reach me anywhere." Then, he adds wistfully "for better or worse."

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Cellular link-up in 20 cities

The U.S.
PAUL TAYLOR

CELLULAR mobile telephone systems are in commercial operation in four major U.S. urban metropolitan areas. So far, "sign-ups" are exceeding even the most optimistic expectations and cellular set sales—even at \$2,500 a time—are booming.

The fourth system, offered by CTE, started 10 days ago in Indianapolis. By the end of this year almost 20 major U.S. cities will be hooked up to cellular telephone systems, producing a real test of a multi-million dollar market which some analysts believe could reach 1.5m subscribers in the 30 largest U.S. cities alone by the end of the decade.

Conservative estimates put the U.S. market for cellular services at about \$80m a year by 1990 in addition to equipment sales which could total another \$700m a year by then. Already there are half a dozen companies supplying equipment, including Motorola, Western Electric, GE, Panasonic and Oki.

"I am very positive," says industry expert John Bain of Lehman Brothers, who was one

of the first Wall Street analysts to point out the potential for "cellular." "So far the timetable is running ahead of our projections."

What is certain is that the cellular telephone service has finally arrived in the U.S. And as Forbes, the U.S. business magazine, noted in a recent issue: "It is to the conventional mobile phone what satellite is to cable."

In Detroit, Ford has just announced that its top-range cars will come factory-equipped with cellular equipment as an optional extra. In New York, cellular phones are a sales gimmick for Cadillac, and across the nation equipment manufacturers are taking full-page advertisements to advertise their wares in this rapidly expanding competitive market.

Differences

The most striking differences between cellular systems and their predecessor, improved mobile telephone service, or IMPS, are availability and quality of service. A cellular phone using the latest technology sounds "just like a desk-top office set and instead of waiting often up to 20 minutes for a line—if you're lucky enough to be allocated a car phone at all—the new systems offer instant high-quality access—but of course at a price.

The Bell system regional telephone bill, based on 300 minutes of usage, is working out at between \$150 and \$200. So far, users have fallen into two main categories. First, the chief executive or president of a small company with perhaps 50 employees, aged 35 to 50 with "above average income"; and second, salesmen who have a need to keep in touch with clients and headquarters almost constantly. Ameritech, which is only now beginning to set up a sales organisation to market the service, says it expects major corporate clients to be eventual big users. "We have already had inquiries but mostly they want to try it out first," Ameritech said.

By 1990, Ameritech expects to have 100,000 customers in the Chicago area alone. That estimate may seem high, but analysts point out that less than 0.1 per cent of cars registered in the U.S. have telephones at present while more than 90 per cent of homes have telephones.

Nevertheless, the Chicago experience could be exceptional. The five-year test generated a lot of advance publicity which probably helped boost initial equipment sales and service sign-ons.

Ameritech, like other "wireline"—or local public telephone company carriers—also faces other competition. The FCC is in the process of authorising one wireline carrier and one independent competitor in each of the major U.S. markets.

So far the FCC has approved 41 wireline operators and another 12 non-wireline licences in the top 90 U.S. markets. Among the major other competitors in the market are companies such as Metromedia, MCI and local entrepreneurial partnerships.

Metromedia has applications in for 33 of the 90 largest markets. Of these Metromedia has an interest in FCC-approved licences in Chicago, Washington, Baltimore and Boston and preliminary FCC decisions in New York, Los Angeles and Philadelphia. MCI has bids in for 51 markets and has already won a number including the lucrative licences for southern California.

In Washington DC and Baltimore—another trial area—Atlantic Bell has just begun operation of a commercial service in competition with a service called Cellular One started last December and whose main participants include Metromedia and Motorola.

Already competition, which Atlantic Bell describes as "severe" in the Washington area, has produced lower service rates where the Bell company has been forced to charge a lower initial "establishment charge" and lower monthly fixed rates.

The average monthly phone bill, based on 300 minutes of usage, is working out at between \$150 and \$200.

So far, users have fallen into two main categories. First, the chief executive or president of a small company with perhaps 50 employees, aged 35 to 50 with "above average income"; and second, salesmen who have a need to keep in touch with clients and headquarters almost constantly. Ameritech, which is only now beginning to set up a sales organisation to market the service, says it expects major corporate clients to be eventual big users. "We have already had inquiries but mostly they want to try it out first," Ameritech said.

By 1990, Ameritech expects to have 100,000 customers in the Chicago area alone. That estimate may seem high, but analysts point out that less than 0.1 per cent of cars registered in the U.S. have telephones at present while more than 90 per cent of homes have telephones.

Nevertheless, the Chicago experience could be exceptional. The five-year test generated a lot of advance publicity which probably helped boost initial equipment sales and service sign-ons.

Ameritech, like other "wireline"—or local public telephone company carriers—also faces other competition. The FCC is in the process of authorising one wireline carrier and one independent competitor in each of the major U.S. markets.

Era of compact models begins

"TAKE AWAY" computer power is about to become a reality. Although "luggable" computers have been around since Osborne Computer introduced its 25 lb "desk to car transportable" in 1981, the era of lightweight, battery-powered computers that can truly be called portable is just about to begin.

The ranks of companies offering these binder-size computers is expanding rapidly. Already Apple Computer, Epson, Gavilan and Sharp have introduced portables. IBM, Xerox, Kaypro and Grid Systems are also expected to make announcements this year.

The portables are aimed at several groups of potential customers. First buyers are expected to include professionals who have become so attached to their desk-top personal computers that they hate to leave them behind when travelling on business. Then there are the highly mobile workers—salesmen, auditors and journalists for example—who spend more than half of their time away from an office.

Portables are also expected to find their place in the home computer market, where their small size and ease of use will offer advantages over the clunkier units that tend to be put away and forgotten.

Technology advances have made the portable computers possible. In portables, the traditional video display unit (or television type display) is replaced by a flat screen made of liquid crystal similar to that used in digital watches. Liquid crystal displays can now be made big enough, and clear enough to make 16-line, 80-column displays and 25-line units are expected to be available before year's end.

CMOS low power (complementary metal oxide semiconductor) chips replace standard MOS (metal oxide semiconductor) "gas guzzlers" in the new portable computers. And high-density memory chips make it possible to pack a lot of storage



The new car telephones offer instant access to the telephone network, though at a price

capacity into a small space. Micro-electronics has also reduced the size of a modem—the link between a computer and the telephone line—to a single chip.

110 contains non-volatile memory chips that can be used to store data.

Apple Computer, with its new IIC, has brought the advantages of portability to the home computer market. The IIC is, however, equally suited to business users with the addition of a liquid crystal display (due out this October) and a battery pack.

Sharp Electronics began shipping its FC5000 briefcase size computer last December. Priced at \$1,995 the 5000 uses bubble memory and software cartridges that snap into the top of the machine.

Grid Systems is another bubble memory fan. The company makes what has been called the Rolls-Royce of portable computers, the \$6,000 grid compass. The compass has an electro-luminescent display that is superior to the LCD used in other portables.

Epson launched its entry into the portable computer field at the recent Hannover Fair. The FX-8 "lap computer" has plug-in software cartridges and an eight-line display. The system is expected to sell for about \$1,200.

Despite all the industry excitement about portable computers, however, their success in the marketplace is as yet unproven. Early versions of portable computers have enjoyed only limited success and it remains to be seen whether the portables can compete with established desk-top models among the majority of first-time personal computer buyers.

Portable computers

LOUISE KEROE

Demand for portable computers is expected to soar. Sales will explode from about 4,000 units valued at \$18m in 1983 to more than 100,000 units worth \$230m this year, according to Future Computing, a Richardson, Texas market research company.

For many users, the portable computer is in effect a portable data communications terminal. It can be plugged into corporate data bases, access public data bases and serve as an electronic mail or telex terminal.

"How much you get out of a computer is a function of its power but also of how frequently and spontaneously you can use it," suggests Richard Baker, marketing manager of Hewlett-Packard's portable computer division.

Hewlett-Packard announced an 8 1/2 lb portable computer earlier this month. The \$3,000 Hewlett-Packard 110 features built-in business software and a so-called "solid state disk." Instead of the usual disk drive, the

Negotiations on Franco-German network

France
DAVID MARSH

FRENCH AND West German telecommunications companies are in the throes of negotiations with the Paris and Bonn governments over a unique industrial collaboration deal between the two countries—the setting up of a joint Franco-German radio-telephone network for mobile telecommunications.

The idea of a joint network was conceived last year as part of French-led plans to boost general electronics co-operation in Europe. Under an agreement announced last November with due pomp and ceremony by M. Louis Mexandeau, the French Minister for Posts and Tele-

communications, companies from the two countries are linking up in a series of unique industrial marriages to reply to a call by the French and German joint equipment tenders put administrations earlier this spring.

The plan is to set up initial pilot schemes in the two countries with about 10,000 subscribers each, concentrated in the conurbations around Paris and Lyon in France, Frankfurt and the Ruhr area in Germany. According to estimates from companies and government officials, which may now be looking a little optimistic, the system could be set up as early as 1986 and enlarged to perhaps as many as 100,000 subscribers by the turn of the decade.

The system is based on the 900 MHz cellular radio technology which vastly expands the capacity of mobile telephone networks by allowing frequen-

cies to be used more efficiently.

Cit Alcatel and Thomson, France's two state-owned telecommunications groups, which agreed to merge their telecommunications interests last September, are certain to play a major part in building up the system, as are Siemens and the German subsidiary of Philips, TDK. These four companies announced last month that they were collaborating to answer the Franco-German tender.

CTT Alcatel agreed with Philips at the end of 1982 joint development of the radio telephone standard called MATSE, which the two companies hoped would be the basis of a Europe-wide network.

CIT Alcatel, which is part of the nationalised CGE electrical and engineering conglomerate, was particularly irritated when the British government in February last year chose a rival U.S.-based cellular radio system

as the basis of the UK's new radiotelephone network scheduled to start next year.

The forging of radio-telephone links between France and Germany may yet put Britain out in the cold compared with the rest of Europe. CIT Alcatel officials hope that the joint Franco-German standard—which looks likely to be based on a hybrid between the MATSE system and the standard developed by Siemens—will gain a foothold in other parts of Europe which have not yet decided the basis of their future radio-telephone links.

These countries include Italy as well as Belgium and Switzerland. Siemens already co-operates with TDK in developing German radio-telephones based on a 450 MHz standard.

The co-existence over the next few years of two German radio-telephone systems—450 and 900 MHz, both probably involv-

ing Siemens, has been criticised by some electronics companies as a wasteful dispersal of resources in this sector.

Other companies to be involved in building the system will be picked from the four additional "pairs" which answered the tenders. Negotiations with the two countries' PTTs are expected to continue during the next few months with the parcelling out of contracts—to be awarded on a 50-50 basis to companies from each country—being worked out towards the end of the summer.

The other groups are Matra of France with Germany's Bosch; Secre of the French Jeumont-Schneider group with Ericsson's West German affiliate; Societe Anonyme de Telecommunications (SAT) of France with Standard Elektrik Lorenz (ITL's German subsidiary) and AEG Telefunken; and Motorola subsidiaries

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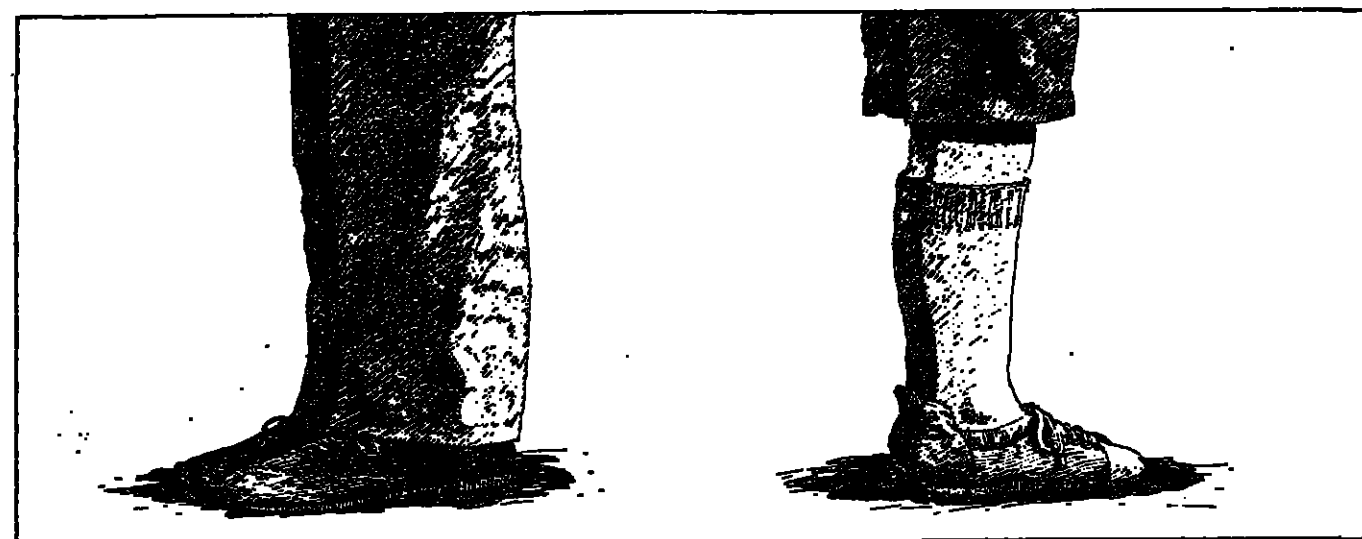


Illustration reflects Ericsson's experience of 98,800 subscriber years vs. the competition's combined total of 47,300 subscriber years (subscribers served by vendor's systems times years in operation). Based on our own estimates, March 1, 1984.

you don't just get a handshake. You get a guarantee. And a system that's ready on time, on budget. What we've learned from these operations pays off for our customers. Because experience has taught us that to be the best supplier of cellular equipment, we have to be the most comprehensive supplier. And we are.

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1. Very low total costs. Not only in terms of initial capital investment, but in long-term operating costs.
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3. It can incorporate future technical developments, making the system virtually "future-proof."

4. It's easy to use and maintain.
5. Extremely high reliability. Completed units are tested in a specially developed pre-installation plant prior to shipment on site, allowing unusually short installation and commissioning timescales. And, like all our cellular equipment, the AXE is self-diagnostic to an exceptionally high degree—right down to the circuit board level.

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When you choose Ericsson as your cellular mobile systems supplier, you choose the industry leader. You choose a company that will be on the front-edge of cellular technology for the life of your system.

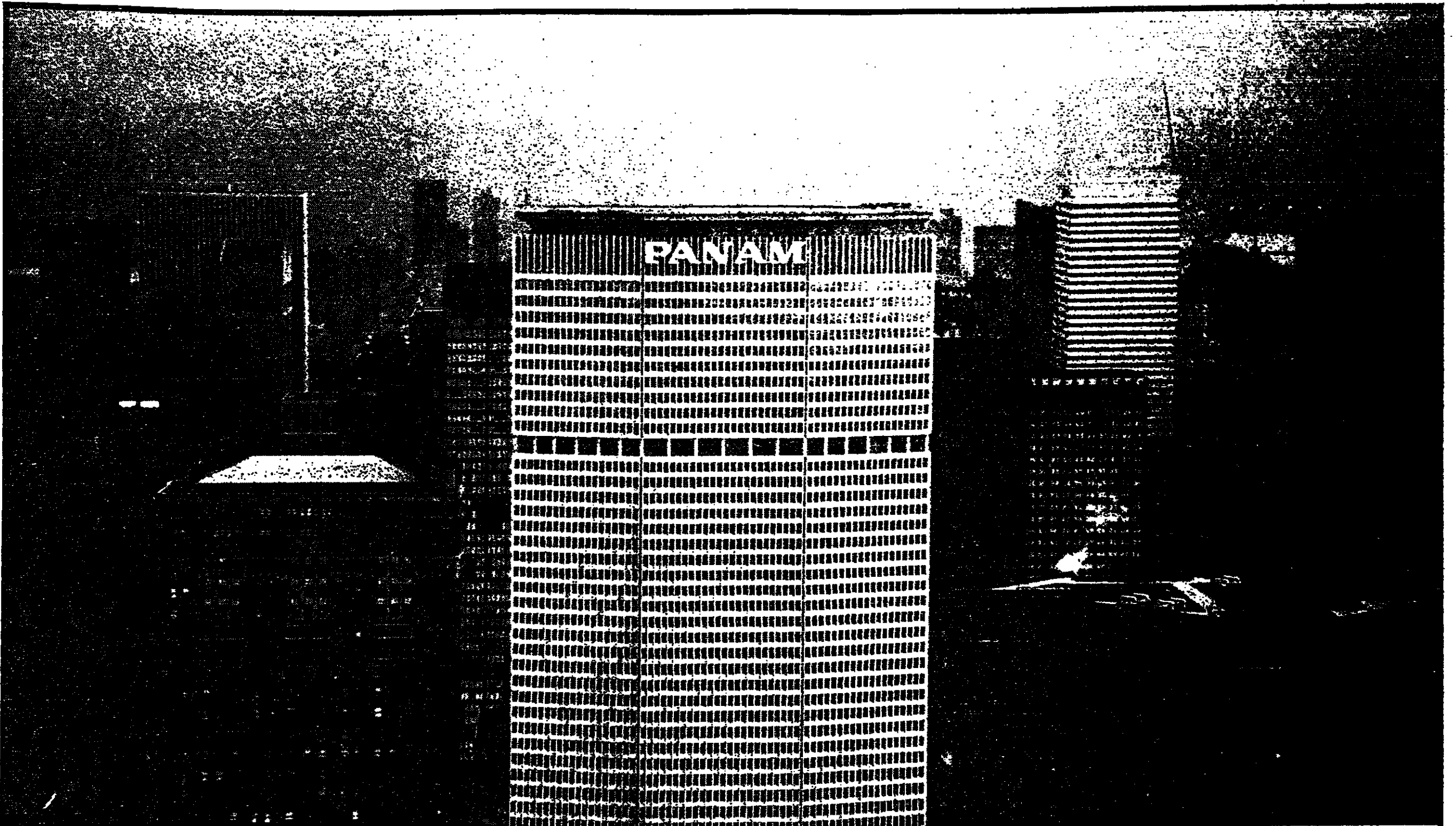
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Call Mr. Reinhold Geiger, Marketing Manager, at +46-8752 2107, or write: Ericsson Radio Systems, S-163 80 Stockholm, Sweden.

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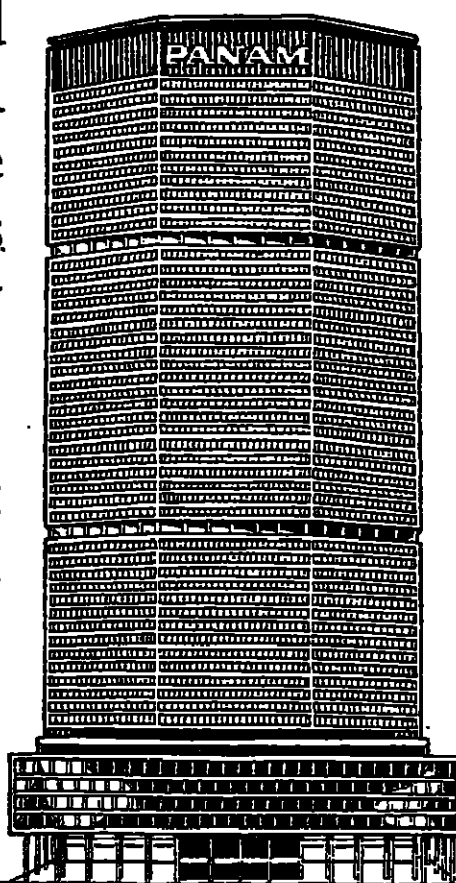
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SECTION III - INTERNATIONAL MARKETS
FINANCIAL TIMES

Tuesday May 15 1984

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WALL STREET

**Depressed
tone still
dominant**

DEEPENING uncertainty over interest rates continued to depress Wall Street yesterday, writes Terry Byland in New York.

Further losses were encountered in the bond market as traders struggled to lighten their portfolios in nervous and volatile trading. Stock prices drifted lower with investment interest subdued by the gloom in the fixed-interest sector.

The Dow Jones industrial average closed 6.07 down at 1,154.00. Bond prices tumbled by as much as two full points in the first hour and although there was no repetition of the near-panic of Friday's market, trading conditions were very difficult. After a brief rally, prices turned down again at mid-session.

The bond market trading firms must pay today for the \$4.75bn of 30-year U.S. Treasury bonds auctioned on Thursday. The new bond, dated 2005-2014, carries a 13.25 per cent coupon and assumes the role of the market's key long-dated issue. At 97 1/2 yesterday, it showed a fall of 1 1/2 from Friday's quotations.

The refusal of investors to take up the bond, even at the lower prices quickly

struck in the open market, has left market firms with paper losses totalling around \$100m on the new issue since Thursday's auction.

Losses suffered by the leading market-makers, together with the absence of institutional interest, have left the bond market significantly short of liquidity, causing prices to move sharply on thin trading. The nervousness spilled over into the bond futures market, where prices rallied and limits were relaxed as traders sought to cover their losses being suffered in the cash market.

The mood of the fixed-interest market was extremely gloom, with analysts predicting higher interest rates as the rapid

The closing Wall Street report, updated U.S. market monitors and late Canadian prices were unavailable because of continuing industrial action at the Financial Times' printers in Frankfurt.

growth in private sector borrowing clashes with the burgeoning federal deficit.

Salomon Bros estimated that short-term business borrowings have risen by nearly \$37bn since the turn of the year, with the figure topped off by a rise of \$469m last week.

Stock prices fell sharply in the first half-hour although turnover was well below average levels. Attempts to rally during the morning were quickly suppressed by the weakness in bonds, and leading stocks gave further ground.

But the underlying tone remained firm, buoyed by the strength of corporate profits in the first quarter of the year.

Interest rate-reliant stocks were sensitive to the depressed mood of the bond sector. H. F. Ahmanson, the largest savings and loan group, dipped \$2 1/2 to \$19 at one stage despite higher profits. Nervousness over the adverse effects on business travel of an upturn in interest rates drove airline issues lower again.

One major cause for uncertainty was lifted by the announcement that 16 U.S. banks had arranged a \$4.5bn loan package for Continental Illinois, the Chicago-based bank. Shares in Continental Illinois, standing at \$13 1/2 ahead of the announcement, later softened to \$13 1/4, a net 5 1/2 higher on the day.

IBM recovered an early fall of 5 1/2 to stand unchanged from Friday's close at \$111 1/4. Ford Motor at \$35 shed 3 1/4 and General Motors at \$63 1/4 was 5 1/4 off as investors shied away from the annual wage negotiations.

Other major issues to weaken included General Electric, 5 1/4 down at \$53 1/4; Inco (International Nickel), 5 1/4 off at \$12; and Texaco, 5 1/4 lower at \$39 1/4. But firmer features included Walt Disney, 1 1/4 higher at \$64 1/4, still hoping for a bid move from either Reliance Holdings or Mr Roy Disney. Chicago Milwaukee, the rail stock, put on \$4 1/4 to \$143 1/4.

The announcement of the loan for Continental Illinois reduced pressure on Bank certificates of deposit, and rates fell by 5 to 15 basis points. Treasury bill rates remained firm, with three month rates 3 basis points better at 9.96 per cent, and the six-month a similar amount higher at 10.30 per cent. The federal funds rate slackened to 10 1/2 per cent.

LONDON

**Resistance
begins to be
established**

THE DISARRAY in U.S. financial markets continued to weigh on London sentiment yesterday but for the first time in several sessions an attempt was made to resist these influences.

On the first day of a new and extended trading account, most jobbers opened blue chip industrials slightly lower. Values gradually edged better, encouraging more genuine support from private investors.

Particularly strong were BTR, 20p up at 480p, and TI, 6p ahead at 244p as good demand followed their respective optimistic statements at yesterday's annual meetings. The rises in these two helped the FT Industrial Ordinary index to close 3.0 up at 874.0, the first improvement in six sessions.

South African golds opened lower and encountered early sporadic selling. Among the heavyweights, Randfontein fared worse with a decline of £3 1/4 at £97 1/4, while Vaal Reefs at £82 1/4 and Maribest at £54 1/4, gave up around £2 1/4.

Initial gains in government securities disappeared as U.S. values went easier. Losses ranged to 1/2.

Chief price changes, Page 36; Details, Page 37; Share information service, Pages 38-39.

HONG KONG

A RESUMPTION of the Hong Kong slide was partially checked by the close, but still left the Hang Seng index 19.60 lower at 908.72. Dealings were thin, but some support emerged after a 25-point mid-session fall put in jeopardy the 900 barrier.

Of the trading majors, Jardine Matheson was 15 cents off at HK\$58.80 and Swire Pacific down 40 cents at HK\$14.

On the banking side Hongkong and Shanghai shed 10 cents to HK\$6.15 and Hang Seng 75 cents at HK\$34.25. A rare firm spot was Hongkong Telephone, unchanged at HK\$41.

SINGAPORE

A STEADY Singapore result was achieved in dull dealings ahead of a national holiday today, allowing the Straits Times industrial index a 1.83 gain at 981.26 but leaving declines with a marked edge over advances of slightly less than two-to-one.

Banks were on the weak side, showing losses of 10 cents for OCBC at S\$10.10 and 15 cents in DBS at S\$9.40. Both now languish at 1984 lows.

A 2.4m block in Sime Darby changed hands off the floor but it emerged unaltered at S\$24.1.

SOUTH AFRICA

WEAKNESS was predominant in Johannesburg stocks as the rand touched a record low against the dollar and the Reserve Bank moved to intervene.

Despite currency considerations and a firm bullion price, golds fared poorly. Randfontein shed R3.50 to R179 and Zandpan 50 cents to R16, while the mining financials had Amgold off R3 at R143.

CANADA

STEEP declines were encountered across the board in Toronto, with the largest losses to be found among the property, energy and mining sectors. Golds and base metals appeared equally affected.

Losses were more muted in Montreal, but covered the full range of industrial and banking issues.

EUROPE

**Carmakers
in the
driving seat**

MOTOR manufacturers found their prospects, for good or ill, firmly in the driving seat of many European bourses yesterday.

The perceived threat to West German industry - and in the immediate future to its motor industry - as a result of strikes by 13,000 metalworkers in the Stuttgart area, was underlined by a virtual absence of buying interest among investors in Frankfurt.

Concern about carryover effects was also cited for mixed to lower performance in Switzerland and the Netherlands, while in France the tone was soured by the spread of industrial action at Citroën.

In contrast, Italy was led higher by Fiat, which announced improved results and a major capital raising operation.

Coupled with concern about the level of U.S. interest rates, the West German strike by members of the IG Metall union left the Commerzbank index down 12.3 at 1,003.4.

Motor and engineering shares took the brunt of the downturn. Daimler-Benz, which has sites in the immediately affected region, fell DM 6.50 to DM 565.50 while Volkswagen was DM 4.50 lower at DM 189.10.

BMW, which became the first manufacturer to threaten shutdowns at four of its plants from Thursday if the strike continues, fell DM 2 to DM 382.

MAN, the manufacturer of heavy trucks, shed DM 4.20 to DM 148. Among engineering issues, Linde fell DM 6.80 to DM 375.20 and KHD DM 5 to DM 239.

Concern that higher U.S. interest rates could oblige the Bundesbank to follow suit at its meeting on Thursday left Deutsche Bank down DM 5.50 to DM 370 ex-dividend and Dresdner DM 2.90 lower at DM 168.50.

In electricals, Siemens shed DM 4.50 to DM 387.90 while battery maker Varta proved one of few exceptions, adding DM 5.50 to DM 172.20 after announcing a higher 1983 dividend.

Bond prices were again lower, in line with the U.S. trend, and the Bundesbank made DM 28.3m of purchases, following Friday's buying totalling DM 52.6m.

After a sharply lower opening, Paris continued to ease, with many investors holding back on expectations of several major capital increases soon.

Renewed tension in the motor industry also depressed prices. Peugeot fell FF 9 to FF 240.20 as the strike which began last Friday at the Citroën assembly plant outside Paris spread to two other Citroën factories.

In foods, Moët Hennessey shed FF 34 to FF 1,605 despite lower parent company net profits for 1983, while Matra, the state-controlled electronics and arms group, fell FF 49 to FF 1,402 as it reported higher net consolidated income last year but a sharp drop in non-consolidated net income.

A firmer Milan was spurred by a 1.26 rise to L4,200 for Fiat during official trading, ahead of the announcement of its improved 1983 results and major capital increase, including the largest rights issue ever made on the market.

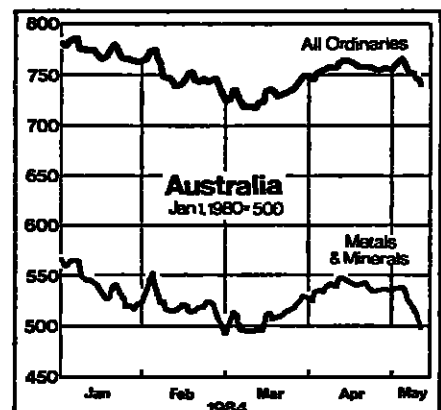
Later, in over-the-counter dealings, the shares moved up to L4,285, although analysts said today's full trading session would be the first true indication of investor sentiment.

In a generally lower Brussels, wire-maker Bekaert fell BF 25 to BF 4,350 as the president's annual report forecast a continued profits recovery this year.

Profit-taking in shares that gained strongly last week left Zurich broadly lower although selective demand for banks gave some support to the market.

Amsterdam was mixed in quiet trading although in a slightly firmer international sector, Unilever added 50 cents to F 262.50, with its first quarter earnings in line with market expectations.

Stockholm was also lower after a quiet start to the week.



AUSTRALIA

A SEVENTH successive Sydney decline was led by the mining and energy majors, under the effects of poor commodity values as well as the weak tone on other world stock markets, but leading industrials fared only slightly better.

BHP fell 25 cents to A\$10.85, CRA 18 cents to A\$5.80, Poseidon in golds 25 cents to A\$4.25, and oil and gas major Santos finished at A\$5.90 after its one-for-four rights issue at A\$4. The previous close was A\$6.66.

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TOKYO

**Slide as
sellers have
field day**

RIISING U.S. interest rates and a weaker yen led to a wave of small-lot selling almost across the board in Tokyo yesterday. Led by blue-chip issues, share prices fell continuously from the outset in the absence of buying support, with the Nikkei-Dow market average posting the second largest one-day loss on record, writes Shigeo Nishitaki of Jiji Press.

The index plunged 270.53, or 2 1/2 per cent, to close at 10,563.34. The high stock prices of recent years mean, however, that the percentage decrease is much smaller. The tenth largest fall, for instance, amounted to 5.02 per cent in November 1967.

Declines far outnumbered advances yesterday, by 657 to 86, with 113 issues unchanged. Turnover slowed further to 235.33m shares from last Friday's 314.91m.

Buying interest was dampened early, prompting small sales across a broad front. Investors, recently unsettled by climbing prices, were further daunted by Wall Street's severe setback on Friday in response to rising interest rates, and by the yen's slide to the Y31 level yesterday on the Tokyo foreign exchange market.

Blue chips in the light electrical, vehicle and precision instrument sectors lost ground widely. Hitachi shed Y35 to Y890, Matsushita Electric Industrial Y70 to Y1,800, NEC Y60 to Y1,210, Toyota Motor Y70 to Y1,330 and Canon Y40 to Y1,250.

Among top-priced issues, Fanuc and Kyocera came under heavy selling pressure, plummeting Y610 and Y450 respectively, to Y8,100 and Y5,250.

Opportunity buying of some chemical and steel issues toward the close failed to buoy the Dow index but Mitsubishi Chemical, volume leader on 8.17m shares, managed a Y3 gain at Y332.

The market's immediate prospects hinge on new upward movement by U.S. interest rates. Brokers and investors were keen to monitor Wall Street's performance later in the day.

The bond market weakened further in thin trading in reaction to Friday's plunge in U.S. bond values. Both buyers and sellers were forced to the sidelines, raising the yield on the benchmark 7.5 per cent long-term government bond due January 1993 to 7.345 per cent from Friday's 7.31 per cent.

KEY MARKET MONITORS				
STOCK MARKET INDICES				
NEW YORK	May 14	Previous	Year ago	
DJ Industrials	1154.00	1157.14	1218.75	
DJ Transport	500.82	502.06	547.89	
DJ Utilities	129.29	128.29	129.61	
S&P Composite	157.49	158.49	164.90	
LONDON	May 14	Previous	Year ago	
FT Ind Ord	874.0	871.0	671.1	
FT-SE 100	1082.4	1078.7	901.7	
FT-A All-shares	511.18	511.85	419.15	
FT-A 500	559.02	558.72	454.13	
FT Gold mines	587.9	610.6	577.9	
FT-A Long gnt	10.64	10.64	10.85	
TOKYO	May 14	Previous	Year ago	
Nikkei-Dow	10,563.34	10,833.8	8,629.51	
Tokyo SE	828.81	848.98	630.59	
AUSTRALIA	May 14	Previous	Year ago	
All Ord.	739.1	747.8	614.3	
Metals & Mins.	496.6	508.9	546.9	
AUSTRIA	May 14	Previous	Year ago	
Credit Aktien	54.87	54.87	58.56	
BELGIUM	May 14	Previous	Year ago	
Belgian SE	154.45	154.30	122.59	
CANADA	May 14	Previous	Year ago	
Toronto	2001.1	2015.0	—	
Metals & Mines	2274.7	2298.2	2443.9	
Composite	110.46	111.28	—	
DEMARK	May 14	Previous	Year ago	
Copenhagen SE	n/a	195.93	143.75	
FRANCE	May 14	Previous	Year ago	
CAC Gen	178.1	178.9	125.5	
Ind. Tendence	110.2	112.6	77.7	
WEST GERMANY	May 14	Previous	Year ago	
FAZ-Aktien	344.24	348.16	311.09	
Commerzbank	1003.4	1015.7	831.3	
HONG KONG	May 14	Previous	Year ago	
Hang Seng	908.72	928.32	947.56	
ITALY	May 14	Previous	Year ago	
Banca Com.	211.59	211.16	188.63	
NETHERLANDS	May 14	Previous	Year ago	
ANP-CBS Gen	163.6	163.7	128.6	
ANP-CBS Ind	151.4	151.5	106.4	
NORWAY	May 14	Previous	Year ago	
Oslo SE	289.20	283.02	191.75	
SINGAPORE	May 14	Previous	Year ago	
Straits Times	981.26	979.43	960.42	
SOUTH AFRICA	May 14	Previous	Year ago	
Gold	n/a	n/a	959.1	
Industrials	n/a	n/a	929.1	
SPAIN	May 14	Previous	Year ago	
Madrid SE	closed	121.11	115.32	
SWEDEN	May 14	Previous	Year ago	
J & P	1519.28	1532.93	1506.77	
SWITZERLAND	May 14	Previous	Year ago	
Swiss Bank Ind	376.3	380.7	325.8	
WORLD	May 11	Prev	Year ago	
Capital Int'l	184.9	186.4	178.8	
GOLD (per ounce)				
London	May 14	Prev	Year ago	
Frankfurt	\$373.00	\$372.75	\$372.75	
Zurich	\$372.50	\$372.75	\$372.75	
Paris (folding)	\$372.36	\$373.29	\$373.29	
Luxembourg (folding)	\$371.25	n/a	n/a	
New York (May)	\$373.60	\$371.30	\$371.30	
* Latest available figure				



Canada's Maple Leaf

are 22-carat gold, you get the purity of 24-carat gold for your money with Maple Leaf. And, the additional security that you can trade it easily anytime, anywhere in the world.

Therefore, prudent investors can follow the example of the ancient Egyptians. Whoever wants to acquire longterm value should choose gold of the highest purity. And today, that is the 999.9/1000 of the Canadian Maple Leaf - a purity for which there is no substitute.

Canada's Maple Leaf Royal Canadian Mint Monnaie royale canadienne

MAPLE LEAF: THERE IS NO SUBSTITUTE FOR PURITY.

NEW YORK STOCK EXCHANGE COMPOSITE CLOSING PRICES

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Continued on Page 35

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AMERICAN STOCK EXCHANGE COMPOSITE CLOSING PRICES

[illegible]

NEW YORK STOCK EXCHANGE COMPOSITE CLOSING PRICES

[illegible]

Continued on Page 36

Sales figures are unofficial. Yearly highs and lows reflect previous 52 weeks plus the current week, but not the last trading day. Where a split or stock dividend amounting to per cent or more has been paid, the year's high-low range a dividend are shown for the new stock only. Unless otherwise noted, rates of dividends are annual disbursements based the latest declaration.

a-dividend also liquidating dividend b-annual rate of dividend per stock dividend. c-equating dividend d-called. e-new-year. f-given in Canadian funds, subject to 15% non-residence tax charge. g-when the company is not a resident of Canada. h-when the company is a resident of Canada. i-when the company is a resident of Canada. j-when the company is a resident of Canada. k-when the company is a resident of Canada. l-when the company is a resident of Canada. m-when the company is a resident of Canada. n-when the company is a resident of Canada. o-when the company is a resident of Canada. p-when the company is a resident of Canada. q-when the company is a resident of Canada. r-when the company is a resident of Canada. s-when the company is a resident of Canada. t-when the company is a resident of Canada. u-when the company is a resident of Canada. v-when the company is a resident of Canada. w-when the company is a resident of Canada. x-when the company is a resident of Canada. y-when the company is a resident of Canada. z-when the company is a resident of Canada.

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INSECT

WORLD ECONOMIC INDICATORS
every Monday in the Financial Times

هكذا عن القليل

early gains to close lower

PUTS			CALLS						PUTS		
July	Oct.	Jan.	Option			Aug.	Nov.	Feb.	Aug.	Nov.	Feb.
3	—	—	LASMO ("296)			260	55	47	7	16	—
10	—	—				320	58	37	23	35	35
6	12	20				330	18	43	23	55	66
20	55	40				340	10	25	43	52	66
12	75	75				350	6	12	75	75	66
—	—	—	Lonrho ("337)			110	30	—	1	—	—
16	20	84				120	21	—	1	—	—
65	40	50				130	12	17	20	6	7
18	88	95				140	7	11	15	9	12
139	136	137				150	2½	6	8	24	27
—	—	—	P. & O. ("312)			250	45	—	—	—	—
14	4	—				260	45	53	—	2	—
16	8	—				270	30	40	47	9	15
4	18	19				280	15	31	38	15	18
—	—	—	Racal ("248)			180	56	—	—	—	—
1½	3	—				200	48	54	2	5	—
3	7	—				210	38	42	2	8	—
10	15	87				220	22	30	36	15	24
37	47	51	R.T.T. ("607)			560	77	—	—	—	—
2	3	—				570	53	65	16	27	32
2	12	16				580	14	27	35	10	65
45	48	28				700	5	16	—	95	100
2	3	—	Vani Roats ("315)			100	19	—	4	—	—
46	1	—				110	12	—	7½	—	—
12	2	—				120	6	9½	11½	12½	14½
12	13	22				130	3½	6	—	20	22
26	32	36				140	1	3½	—	27	29½
			Option			CALLS			PUTS		
			June	Sept.	Dec.	June	Sept.	Dec.	June	Sept.	Dec.
20			Beecham ("315)			280	42	47	—	2	—
60						300	26	38	37	8	13
2						350	8	12	22	25	27
2						400	2	6	11	50	55
2			Bass ("363)			300	70	75	—	2	—
2						330	40	45	0	2	—
22						360	15	23	30	9	16
22						400	5	10	36	36	36
1											

Financial Times Tuesday May 15 1984

INDUSTRIALS—Continued

High	Low	Stock	Price	Div	Yield	Vol
134	134	ICI PLC	134	0.75	5.6	100
134	134	ICI PLC	134	0.75	5.6	100
134	134	ICI PLC	134	0.75	5.6	100
134	134	ICI PLC	134	0.75	5.6	100
134	134	ICI PLC	134	0.75	5.6	100
134	134	ICI PLC	134	0.75	5.6	100
134	134	ICI PLC	134	0.75	5.6	100
134	134	ICI PLC	134	0.75	5.6	100
134	134	ICI PLC	134	0.75	5.6	100
134	134	ICI PLC	134	0.75	5.6	100

LEISURE—Continued

High	Low	Stock	Price	Div	Yield	Vol
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100

PROPERTY—Continued

High	Low	Stock	Price	Div	Yield	Vol
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100

INVESTMENT TRUSTS—Cont.

High	Low	Stock	Price	Div	Yield	Vol
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100

OIL AND GAS—Continued

High	Low	Stock	Price	Div	Yield	Vol
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100

MINES—Continued

High	Low	Stock	Price	Div	Yield	Vol
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100

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High	Low	Stock	Price	Div	Yield	Vol
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100
115	115	Wentworth 100	115	0.75	5.6	100

RECENT ISSUES AND "RIGHTS" PAGE 39

Manhattan Pacific Fund Mgmt. Ltd. 2110, Connaught Centre, Hong Kong		Richmond Life Ass. Ltd. 4 Mill Street, Douglas, Isld.		0624 23914
For East May 9	54.39	4.73	21.3	22.8
Japan Fund May 11	52.71	20.01	62.0	45.3
			262.7	269.7

[illegible]

CURRENCIES, MONEY and CAPITAL MARKETS

FOREIGN EXCHANGES

Bank rumours hit dollar

The dollar was volatile on the foreign exchanges, discouraging market operators from taking out large positions because of the general mood of uncertainty and keeping trading rather thin. The U.S. currency opened little changed from its last close, but firmers than Friday's London finish. This reflected the depressed state of the U.S. bond market and expectations that the slight easing of Eurodollar rates was merely technical and likely to be reversed. Concern about the German engineering workers' strike, followed by news of a shutdown of four BMW plants, helped to underpin the dollar, as did anticipation that economic statistics released this week will point to continued strong U.S. economic growth.

Central banks were not particularly active in pushing the dollar down, but the currency became very nervous and volatile in late trading as rumours spread that another large U.S. bank in difficulty. This led to speculation the Federal Reserve may be forced to intervene by injecting large amounts of money into the banking system, thus depressing interest rates and the dollar. Against this nervous background, the dollar fell to DM 2.7770 from DM 2.7715, Ffr 5.4650 from Ffr 5.5150, and Sfr 2.2785 from Sfr 2.2875.

but improved to Y231.25 from Y230.25 against the yen on fears about world oil supplies as a result of the war between Iran and Iraq, and suggestions that long yen/D-mark positions will be quickly unwound. The German currency recovers against the dollar.

Against the dollar in 1984 is 1.4590 to 1.5590. April average 1.4590. Trade-weighted index 80.1, opening at 80.0 at noon, the opening and the previous close, and 80.0 six months ago.

Sterling rose 30 points to close at \$1.5850, after opening at \$1.5810, and the pound was also firm against the yen, rising to Y231 from Y230. It lost ground to Continental currencies however, falling to DM 2.5575 from DM 2.5725, Ffr 5.4650 from Ffr 5.5150, and Sfr 2.2785 from Sfr 2.2875.

EMS EUROPEAN CURRENCY UNIT RATES

ECU	Current rate	% change from 1983	% change from 1982	Divergence limit
Belgian Franc	44.8008	+1.58	+1.58	+1.5447
French Franc	6.5596	+0.74	+0.74	+0.74
German Mark	2.3636	+0.16	+0.16	+0.16
Italian Lira	2.3636	+0.16	+0.16	+0.16
Spanish Peseta	166.6389	+0.16	+0.16	+0.16
Portuguese Escudo	200.482	+0.16	+0.16	+0.16
Irish Punt	7.8756	+0.16	+0.16	+0.16
Swedish Krona	103.76	+0.16	+0.16	+0.16
Swiss Franc	2.2037	+0.16	+0.16	+0.16

Changes are for ECU, therefore positive change denotes a weak currency. Adjustments by Financial Times.

THE POUND SPOT AND FORWARD

May 14	Day's spread	Close	One month	% p.a.	Three months	% p.a.
U.S.	1.5850-1.5860	1.5855	1.5855-1.5865	-0.21	1.5855-1.5865	-0.21
Canada	1.275-1.2825	1.2785	1.2785-1.2795	-0.21	1.2785-1.2795	-0.21
Norfolk	4.30-4.32	4.31	4.31-4.32	-0.21	4.31-4.32	-0.21
Denmark	14.00-14.05	14.02	14.02-14.03	-0.21	14.02-14.03	-0.21
Ireland	1.245-1.2475	1.2465	1.2465-1.2475	-0.21	1.2465-1.2475	-0.21
W. Ger.	2.571-2.573	2.572	2.572-2.573	-0.21	2.572-2.573	-0.21
Portugal	192.75-193.75	193.25	193.25-193.75	-0.21	193.25-193.75	-0.21
Spain	124.20-124.40	124.30	124.30-124.40	-0.21	124.30-124.40	-0.21
Italy	200.48-200.68	200.58	200.58-200.68	-0.21	200.58-200.68	-0.21
Norway	10.90-10.92	10.91	10.91-10.92	-0.21	10.91-10.92	-0.21
France	5.465-5.475	5.47	5.47-5.475	-0.21	5.47-5.475	-0.21
Sweden	11.25-11.27	11.26	11.26-11.27	-0.21	11.26-11.27	-0.21
Japan	230.25-231.25	230.75	230.75-231.25	-0.21	230.75-231.25	-0.21
Austria	25.25-25.35	25.3	25.3-25.35	-0.21	25.3-25.35	-0.21
Switzerland	2.2785-2.2875	2.283	2.283-2.2875	-0.21	2.283-2.2875	-0.21

Belgian rate is for convertible francs. Financial Times 78.20-78.30. Six-month forward dollar 1.54-1.575 dis. 12-month 3.74-3.79 dis.

THE DOLLAR SPOT AND FORWARD

May 14	Day's spread	Close	One month	% p.a.	Three months	% p.a.
U.S.	1.5850-1.5860	1.5855	1.5855-1.5865	-0.21	1.5855-1.5865	-0.21
Canada	1.275-1.2825	1.2785	1.2785-1.2795	-0.21	1.2785-1.2795	-0.21
Norfolk	4.30-4.32	4.31	4.31-4.32	-0.21	4.31-4.32	-0.21
Denmark	14.00-14.05	14.02	14.02-14.03	-0.21	14.02-14.03	-0.21
Ireland	1.245-1.2475	1.2465	1.2465-1.2475	-0.21	1.2465-1.2475	-0.21
W. Ger.	2.571-2.573	2.572	2.572-2.573	-0.21	2.572-2.573	-0.21
Portugal	192.75-193.75	193.25	193.25-193.75	-0.21	193.25-193.75	-0.21
Spain	124.20-124.40	124.30	124.30-124.40	-0.21	124.30-124.40	-0.21
Italy	200.48-200.68	200.58	200.58-200.68	-0.21	200.58-200.68	-0.21
Norway	10.90-10.92	10.91	10.91-10.92	-0.21	10.91-10.92	-0.21
France	5.465-5.475	5.47	5.47-5.475	-0.21	5.47-5.475	-0.21
Sweden	11.25-11.27	11.26	11.26-11.27	-0.21	11.26-11.27	-0.21
Japan	230.25-231.25	230.75	230.75-231.25	-0.21	230.75-231.25	-0.21
Austria	25.25-25.35	25.3	25.3-25.35	-0.21	25.3-25.35	-0.21
Switzerland	2.2785-2.2875	2.283	2.283-2.2875	-0.21	2.283-2.2875	-0.21

UK and Ireland are quoted in U.S. currency. Forward premiums and discounts apply to the U.S. dollar and not to the individual currency. Belgian rate is for convertible francs. Financial Times 78.20-78.30.

OTHER CURRENCIES

May 14	£	¢	2
Argentina Peso	165.55-166.55	166.05	166.05-167.05
Australia Dollar	1.515-1.525	1.52	1.52-1.53
Brazil Cruzeiro	2,061.5-2,071.5	2,066.5	2,066.5-2,076.5
Finland Markka	5.810-5.820	5.815	5.815-5.825
Great Britain	1.515-1.525	1.52	1.52-1.53
Hong Kong Dollar	10.6-10.7	10.65	10.65-10.75
India Rupee	155.00	155.00	155.00-156.00
Israel Sheqel	1.85-1.86	1.855	1.855-1.865
Kenya Shilling	0.000-0.001	0.0005	0.0005-0.0015
Malaysia Ringgit	1.515-1.525	1.52	1.52-1.53
Malta Lira	1.515-1.525	1.52	1.52-1.53
New Zealand Dollar	1.515-1.525	1.52	1.52-1.53
Saudi Arab. Riyal	4.750-4.775	4.7625	4.7625-4.7775
Singapore Dollar	0.715-0.725	0.72	0.72-0.73
South African Rand	1.755-1.765	1.76	1.76-1.77
U.A.E. Dirham	6.850-6.875	6.8625	6.8625-6.8775

CURRENCY MOVEMENTS

May 14	Bank of England	Morgan Guaranty	Index
Starting	80.1	10.5	10.5
U.S. dollar	121.7	19.7	19.7
Canadian dollar	58.7	15.1	15.1
Australian dollar	115.0	15.4	15.4
Belgian franc	80.7	11.5	11.5
Dutch guilder	120.8	12.9	12.9
French franc	145.7	10.7	10.7
Swiss franc	65.9	15.4	15.4
Italian lira	115.0	15.4	15.4
Spanish peseta	115.0	15.4	15.4
Portuguese escudo	115.0	15.4	15.4
Japanese yen	115.0	15.4	15.4
South African rand	115.0	15.4	15.4
U.A.E. dirham	115.0	15.4	15.4

CURRENCY RATES

May 14	Bank of England	Morgan Guaranty	Index
Starting	80.1	10.5	10.5
U.S. dollar	121.7	19.7	19.7
Canadian dollar	58.7	15.1	15.1
Australian dollar	115.0	15.4	15.4
Belgian franc	80.7	11.5	11.5
Dutch guilder	120.8	12.9	12.9
French franc	145.7	10.7	10.7
Swiss franc	65.9	15.4	15.4
Italian lira	115.0	15.4	15.4
Spanish peseta	115.0	15.4	15.4
Portuguese escudo	115.0	15.4	15.4
Japanese yen	115.0	15.4	15.4
South African rand	115.0	15.4	15.4
U.A.E. dirham	115.0	15.4	15.4

EXCHANGE CROSS RATES

May 14	£	¢	2
Argentina Peso	165.55-166.55	166.05	166.05-167.05
Australia Dollar	1.515-1.525	1.52	1.52-1.53
Brazil Cruzeiro	2,061.5-2,071.5	2,066.5	2,066.5-2,076.5
Finland Markka	5.810-5.820	5.815	5.815-5.825
Great Britain	1.515-1.525	1.52	1.52-1.53
Hong Kong Dollar	10.6-10.7	10.65	10.65-10.75
India Rupee	155.00	155.00	155.00-156.00
Israel Sheqel	1.85-1.86	1.855	1.855-1.865
Kenya Shilling	0.000-0.001	0.0005	0.0005-0.0015
Malaysia Ringgit	1.515-1.525	1.52	1.52-1.53
Malta Lira	1.515-1.525	1.52	1.52-1.53
New Zealand Dollar	1.515-1.525	1.52	1.52-1.53
Saudi Arab. Riyal	4.750-4.775	4.7625	4.7625-4.7775
Singapore Dollar	0.715-0.725	0.72	0.72-0.73
South African Rand	1.755-1.765	1.76	1.76-1.77
U.A.E. Dirham	6.850-6.875	6.8625	6.8625-6.8775

CURRENCY MOVEMENTS

May 14	Bank of England	Morgan Guaranty	Index
Starting	80.1	10.5	10.5
U.S. dollar	121.7	19.7	19.7
Canadian dollar	58.7	15.1	15.1
Australian dollar	115.0	15.4	15.4
Belgian franc	80.7	11.5	11.5
Dutch guilder	120.8	12.9	12.9
French franc	145.7	10.7	10.7
Swiss franc	65.9	15.4	15.4
Italian lira	115.0	15.4	15.4
Spanish peseta	115.0	15.4	15.4
Portuguese escudo	115.0	15.4	15.4
Japanese yen	115.0	15.4	15.4
South African rand	115.0	15.4	15.4
U.A.E. dirham	115.0	15.4	15.4

CURRENCY RATES

May 14	Bank of England	Morgan Guaranty	Index
Starting	80.1	10.5	10.5
U.S. dollar	121.7	19.7	19.7
Canadian dollar	58.7	15.1	15.1
Australian dollar	115.0	15.4	15.4
Belgian franc	80.7	11.5	11.5
Dutch guilder	120.8	12.9	12.9
French franc	145.7	10.7	10.7
Swiss franc	65.9	15.4	15.4
Italian lira	115.0	15.4	15.4
Spanish peseta	115.0	15.4	15.4
Portuguese escudo	115.0	15.4	15.4
Japanese yen	115.0	15.4	15.4
South African rand	115.0	15.4	15.4
U.A.E. dirham	115.0	15.4	15.4

EURO-CURRENCY INTEREST RATES (Market closing rates)

May 14	Sterling	U.S. Dollar	Canadian Dollar	Dutch Guilder	Swiss Franc	French Franc	Italian Lira	Belgian Franc	Yen	Danish Kroner
Short term	9 1/2	10 1/2	9 1/2	5 1/2	8 1/2	11 1/2	14 1/2	10 1/2	5 1/2	9 1/2
Three months	7 1/2	10 1/2	9 1/2	5 1/2	8 1/2	11 1/2	14 1/2	10 1/2	5 1/2	9 1/2
Three months	7 1/2	10 1/2	9 1/2	5 1/2	8 1/2	11 1/2	14 1/2	10 1/2	5 1/2	9 1/2
Three months	7 1/2	10 1/2	9 1/2	5 1/2	8 1/2	11 1/2	14 1/2	10 1/2	5 1/2	9 1/2
Three months	7 1/2	10 1/2	9 1/2	5 1/2	8 1/2	11 1/2	14 1/2	10 1/2	5 1/2	9 1/2
Three months	7 1/2	10 1/2	9 1/2	5 1/2	8 1/2	11 1/2	14 1/2	10 1/2	5 1/2	9 1/2
Three months	7 1/2	10 1/2	9 1/2	5 1/2	8 1/2	11 1/2	14 1/2	10 1/2	5 1/2	9 1/2
Three months	7 1/2	10 1/2	9 1/2	5 1/2	8 1/2	11 1/2	14 1/2	10 1/2	5 1/2	9 1/2
Three months	7 1/2	10 1/2	9 1/2	5 1/2	8 1/2	11 1/2	14 1/2	10 1/2	5 1/2	9 1/2
Three months	7 1/2	10 1/2	9 1/2	5 1/2	8 1/2	11 1/2	14 1/2	10 1/2	5 1/2	9 1/2

CURRENCY MOVEMENTS

May 14	Bank of England	Morgan Guaranty	Index
Starting	80.1	10.5	10.5
U.S. dollar	121.7	19.7	19.7
Canadian dollar	58.7	15.1	15.1
Australian dollar	115.0	15.4	15.4
Belgian franc	80.7	11.5	11.5
Dutch guilder	120.8	12.9	12.9
French franc	145.7	10.7	10.7
Swiss franc	65.9	15.4	15.4
Italian lira	115.0	15.4	15.4
Spanish peseta	115.0	15.4	15.4
Portuguese escudo	115.0	15.4	15.4
Japanese yen	115.0	15.4	15.4
South African rand	115.0	15.4	15.4
U.A.E. dirham	115.0	15.4	15.4

CURRENCY RATES

May 14	Bank of England	Morgan Guaranty	Index
Starting	80.1	10.5	10.5
U.S. dollar	121.7	19.7	19.7
Canadian dollar	58.7	15.1	15.1
Australian dollar	115.0	15.4	15.4
Belgian franc	80.7	11.5	11.5
Dutch guilder	120.8	12.9	12.9
French franc	145.7	10.7	10.7
Swiss franc	65.9	15.4	15.4
Italian lira	115.0	15.4	15.4
Spanish peseta	115.0	15.4	15.4
Portuguese escudo	115.0	15.4	15.4
Japanese yen	115.0	15.4	15.4
South African rand	115.0	15.4	15.4
U.A.E. dirham	115.0	15.4	15.4

MONEY MARKETS

London rates easier

Interest rates had a slightly easier tone on the London money market yesterday, but discount houses remained wary of another rise in clearing bank base rates in the near future and were reluctant to pay the going rate for overnight money before the Bank of England intervened to relieve the relatively small market shortage. Overnight money in the interbank market was around 8 1/2 per cent for much of the day, but fell to a low of 2 1/2 per cent despite the fact that the

